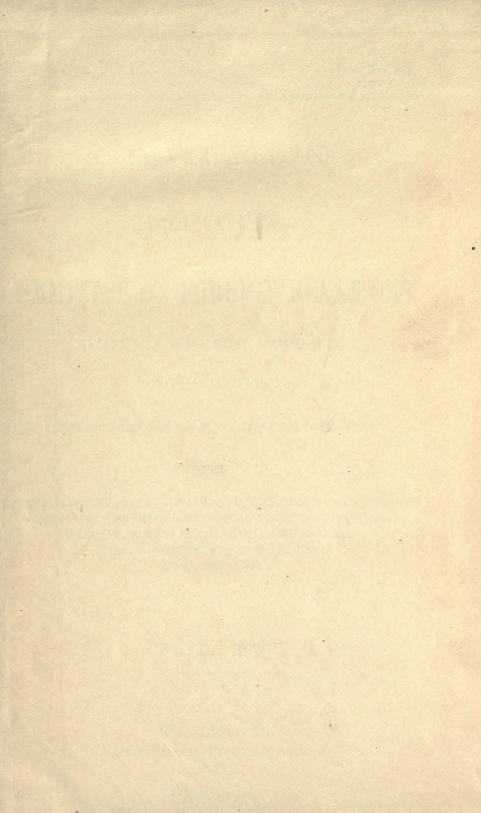


JX 234 A2 v.4

UNIVERSITY of CALIFORNIA AT LOS ANGELES LIBRARY Digitized by the Internet Archive in 2007 with funding from Microsoft Corporation



hanner four-

COMPILATION

OF

REPORTS

OF

COMMITTEE ON FOREIGN RELATIONS,

UNITED STATES SENATE,

1789-1901,

First Congress, First Session, to Fifty-sixth Congress Second Session.

MEDITERRANEAN COMMERCE, ETC.—NOMINATIONS—AUTHORIZATIONS TO ACCEPT DECORATIONS
FROM FOREIGN GOVERNMENTS—INTERNATIONAL EXHIBITIONS; INTERNATIONAL
CONFERENCES; MARITIME CANALS; PACIFIC CABLES; RAILROADS—
TRADE AND COMMERCE WITH FOREIGN NATIONS—
TARIFF RESTRICTIONS.

VOL. IV.

WASHINGTON:

GOVERNMENT PRINTING OFFICE.
1901.

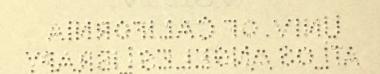
128144

IN THE SENATE OF THE UNITED STATES, January 15, 1901.

Resolved, That there be printed as a Senate document the Compilation of Reports of the Committee on Foreign Relations of the United States Senate from seventeen hundred and eighty-nine to nineteen hundred, prepared under the direction of the Committee on Foreign Relations, as authorized by the Act approved June sixth, nineteen hundred, entitled "An Act making appropriations to supply deficiencies in the appropriations for the fiscal year ending June thirtieth, nineteen hundred, and for prior years, and for other purposes."

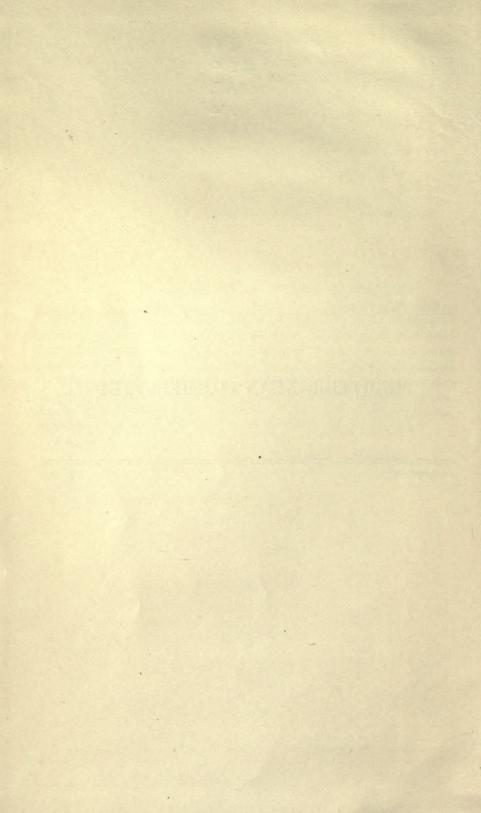
Attest:

CHARLES G. BENNETT, Secretary.



JX 234 A2 V.4

MEDITERRANEAN COMMERCE, ETC.



MEDITERRANEAN COMMERCE, ETC.

FIRST CONGRESS, THIRD SESSION.

January 6, 1791.

On the President's speech relating to Mediterranean commerce, and the message from the President in regard to citizens of the United States in captivity in Algiers, Mr. Langdon reported as follows:

The committee to whom was referred that part of the President's speech which relates to the trade of the Mediterranean, also the President's message of December 30, with the papers accompanying the same, are of opinion that the trade of the United States to the Mediterranean, can not be protected but by a naval force, and that it will be proper to resort to the same as soon as the state of the public finances will admit.

February 1, 1791.

On letter from Secretary of State, with inclosures, relative to Amer-

ican prisoners in Algiers, Mr. Langdon reported as follows:

Resolved, That the Senate advise and consent that the President of the United States take such measures as he may think necessary for the redemption of the citizens of the United States now in captivity at Algiers, provided the expense shall not exceed forty thousand dollars; and also, that measures be taken to confirm the treaty now existing between the United States and the Emperor of Morocco, provided no greater sum than twenty thousand dollars be expended in that business.

Ordered, That the Secretary communicate this resolution to the

President of the United States.

March 1, 1791.

As to protection of American commerce in Mediterranean and securing recognition of treaty with Morocco, Mr. Langdon reported

following bill:

SEC. 1. Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That, for the purpose of effecting a recognition of the treaty of the United States with the new Emperor of Morocco, there be, and hereby is, appropriated a sum not exceeding twenty thousand dollars, to be paid out of the moneys which, prior to the first day of January next, shall arise from the duties imposed upon spirits distilled within the United States, and from stills, by the act entitled "An act repealing, after the last day of June next, the duties heretofore laid upon distilled spirits imported from abroad, and laying others in their stead; and also upon spirits distilled within the United States, and for appropriating the same;" together with the excess of duties which may arise from the duties imposed by the said act on imported spirits, beyond

those which would have arisen by the act entitled "An act making further provision for the payment of the United States;" and the President is hereby authorized to take on loan the whole sum by this act appropriated, or so much thereof as he may judge requisite, at an interest not exceeding six per cent per annum, and the sum established for the above-mentioned appropriation is hereby pledged for the payment of the principal and interest of any loan to be obtained in manner aforesaid; and, in case of any deficiency in the said fund, the faith of the United States is hereby also pledged to make good such deficiency.

March 1, 1791.

As to ransom of Americans, captive in Algiers, Mr. Langdon

reported as follows:

Whereas since the resolution of the Senate advising the President of the United States to take measures for the ransom of the American captives at Algiers, large appropriations of money have been made

for the protection of the western frontiers:

Resolved, That the Senate do advise and consent that the President of the United States suspend any operations under the said resolution for the ransom of said captives, until the situation of the Treasury shall more clearly authorize appropriations of money for that purpose.

(Ex. Jour., vol. 1, pp. 72, 73, 75, 77, 78; Annals, 1st Cong., 1749, 1752, 1763, 1773, 1774, 1781.)

FOURTH CONGRESS, FIRST SESSION.

March 22, 1796.

On the message of the President as to the equipment of frigates for

Algiers, Mr. Bingham reported as follows:

That it is the opinion of the committee it will be expedient to authorize the President of the United States to cause to be completed, with all convenient expedition, two of the said frigates of forty-four, and one of thirty-six guns.

That a discretionary power be committed to the President of the United States to cause the other to be finished, having a due regard

to the existing price of labor and materials.

That so much of the \$688,888.32 as by the act of June, 1794, was appropriated to pay the expenses to be incurred by the act to provide a naval armament remains unexpended, as well as so much of the sum of \$80,000 appropriated for a provisional equipment of galleys, by the before-recited act, be appropriated for carrying into effect the provisions of the aforesaid resolution.

(Annals, 4th Cong., 1st sess., 54, 60.)

EIGHTH CONGRESS, FIRST SESSION.

March 24, 1804.

As to protection of the commerce and seamen of the United States against the Barbary Powers, Mr. Smith reported the following bill: . Be it enacted, etc., That for the purpose of defraying the expenses

of equipping, officering, manning, and employing such of the armed vessels of the United States as may be deemed requisite by the President of the United States for protecting the commerce and seamen thereof, and for carrying on warlike operations against the Regency of Tripoli, or of any of the Barbary Powers which may commit hostilities against the United States, and for the purpose also of defraying any other expenses incidental to the intercourse with the Barbary Powers, or which are authorized by this act, a duty of two and onehalf per centum ad valorem, in addition to the duties now imposed by law, shall be laid, levied, and collected upon all goods, wares, and merchandise, paying a duty ad valorem, which shall, after the thirtieth day of June next, be imported into the United States from any foreign port or place; and an addition of ten per centum shall be made to the said additional duty in respect to all goods, wares, and merchandise imported in ships or vessels not of the United States; and the duties imposed by this act shall be levied and collected in the same manner and under the same regulations and allowances as to drawbacks, mode of security, and time of payment, respectively, as are already prescribed by law in relation to the duties now in force on the articles on which the said additional duty is laid by this act.

That a distinct account shall be kept of the duties imposed by this act, and the proceeds thereof shall constitute a fund, to be denominated "The Mediterranean fund," and shall be applied solely to the purposes designated by this act; and the said additional duties shall cease and be discontinued at the expiration of three months after the ratification by the President of the United States of a treaty of peace with the Regency of Tripoli, unless the United States shall then be at war with any other of the Barbary States, in which case the said additional duty shall cease and be discontinued at the expiration of three months after the ratification by the President of the United States of a treaty of peace with such power: Provided, however, That the said additional duty shall be collected on all such goods, wares, and merchandise liable to pay the same as shall have been imported previous

to the day on which the said duty is to cease.

That the President of the United States, if he shall deem it necessary, shall be, and he is hereby, authorized to cause to be purchased or built, officered, manned, and equipped, two vessels of war, to carry not more than sixteen guns each, and likewise to hire or accept on loan in the Mediterranean Sea as many gunboats as he may think

proper.

That a sum not exceeding one million of dollars, to be paid out of any money in the Treasury not otherwise appropriated, shall be, and the same is hereby, appropriated (in addition to the sum heretofore appropriated for the same objects) for the purpose of defraying any of the expenses authorized by this act which may be incurred during the present year; or, if necessary, the President of the United States is hereby authorized to borrow the said sum, or such part thereof as he may think proper, at a rate of interest not exceeding six per centum per annum, from the Bank of the United States, which is hereby empowered to lend the same, or from any other body or bodies, politic or corporate, or from any person or persons; and so much of the proceeds of the duties laid by this act as may be necessary shall be, and is hereby, pledged for replacing in the Treasury the said sum of one million of dollars, or so much thereof as shall have been thus expended, and for paying the principal and interest of the said sum, or so much thereof as may be borrowed, pursuant to the authority

given in this section; and an account of the several expenditures made under this act shall be laid before Congress during their next session.

(Annals, 8th Cong., 1st sess., 295, 298; Stat. L., vol. 2, p. 291.)

THIRTEENTH CONGRESS, THIRD SESSION.

March 3, 1815.

As to protection of the commerce of the United States against

Algerine cruisers, Mr. Bibb reported as follows:

That in the month of July, 1812, the Dey of Algiers, taking offense, or pretending to take offense, at the quality and quantity of a shipment of military stores made by the United States, in pursuance of the stipulation in the treaty of 1795, and, refusing to receive the stores, extorted from the American consul-general at Algiers, by threats of personal imprisonment, and of reducing to slavery all Americans within his power, a sum of money, claimed as the arrearages of treaty stipulations, and denied by the United States, to be due; and then compelled the consul, and all the citizens of the United States at Algiers, abruptly to quit his dominions. It further appears to the committee that on the 25th of August following, the American brig Edwin, of Salem, owned by Nathaniel Silsbee, of that place, while on a voyage from Malta to Gibraltar, was taken by an Algerine corsair and carried into Algiers as prize. The commander of the brig, Capt. George Campbell Smith, and the crew, ten in number, have ever since been detained in captivity, with the exception of two of them, whose release has been effected, under circumstances not indicating any change of hostile temper on the part of the Dey. It also appears that a vessel sailing under the Spanish flag has been condemned in Algiers as laying a false claim to that flag, and concealing her true American character. In this vessel was taken a Mr. Pollard, who claims to be an American citizen, and is believed to be of Norfolk, Va., and who, as an American citizen, is kept in captivity. The Government, justly solicitous to relieve these unfortunate captives, caused an agent (whose connection with the Government was not disclosed) to be sent to Algiers, with the means and with instructions to effect their ransom, if it could be done at a price not exceeding \$3,000 per man. The effort did not succeed, because of the Dey's avowed policy to increase the number of his American slaves, in order to be able to compel a renewal of his treaty with the United States on terms suited to his rapacity. Captain Smith, Mr. Pollard, and the mate of the Edwin are not confined, nor kept at hard labor; but the rest of the captives are subjected to the well-known horrors of Algerine slavery. The committee have not been apprised of any other specific outrages upon the persons or property of American citizens besides those stated; and they apprehend that the fewness of these is attributable to the want of opportunity, and not of inclination, in the Dey to prey upon our commerce and to enslave our citizens. The war with Great Britain has hitherto shut the Mediterranean against American vessels, which it may be presumed will now shortly venture upon it. The committee are all of opinion, upon the evidence which has been laid before them, that the Dey of Algiers considers his treaty with the United States as at an end, and is waging war against them. The evidence upon which this opinion is founded, and from which are extracted the facts above stated, accompanies this report, and with it is respectfully submitted.

(Leg. Jour. vol. 5, pp. 686, 687; Am. St. Pap., vol. 3, p. 748.)

NOMINATIONS.



NOMINATIONS.

SECOND CONGRESS, SECOND SESSION.

January 6, 1792.

On the nomination of Gouverneur Morris and Thomas Pickering to be ministers plenipotentiary at Paris and London and William Short to be minister resident at The Hague Mr. Strong reported as follows:

That from the facts communicated to them they are of the opinion that there is now a special occasion for the appointing of a minister

to the Court of London.

The committee submit to the consideration of the Senate the information they have received relative to the expediency of appointing ministers at the Court of Paris and at The Hague at this time.

(Ex. Jour., vol. 1, pp. 92, 93, 94.)

TWELFTH CONGRESS, FIRST SESSION.

November 25, 1811.

On the nomination of James Monroe to be Secretary of State Mr.

Giles reported as follows:

That they have examined the accounts of Mr. Monroe while acting as a foreign minister, and find nothing therein to justify the rejection of the nomination.

(Ex. Jour., vol. 2, pp. 189, 192.)

THIRTEENTH CONGRESS, FIRST SESSION.

June 7, 1813.

On the nomination of Jonathan Russell to be minister to Sweden

Mr. Goldsborough reported as follows:

That in pursuance of the order of the Senate the committee met the Secretary of State, by appointment, at the office of the Department of State, when they were informed by the Secretary that there was no official denial or admission of Mr. Jonathan Russell's that the allegation of the Duke of Bassano to Mr. Barlow, referred to, was true, but that he (the Secretary) had a private letter from Mr. Russell subsequent to the allegation of the Duke of Bassano, in which he understood that allegation to be unequivocally denied.

(Ex. Jour., vol. 2, pp. 349, 351.)

June 4, 1813.

On the nomination of Albert Gallatin to be envoy to Great Britain

and Russia Mr. Anderson reported as follows:

That in obedience to the resolution authorizing the committee to inquire and report thereon he had addressed a letter to the President of the United States, a copy of which accompanies this report, inclosing a copy of the resolution under which the committee were appointed; that he afterwards called on the President of the United States, who informed him that he did not consider the authority given to the committee such as to authorize them to call on him in their official character, but that if they were especially instructed to call upon him, and the specific object should be designated, he would freely receive them and appoint a time for that purpose.

July 19, 1813.

Mr. Anderson further reported as follows:

That according to the instructions of the Senate of the 16th June the committee, through its chairman, addressed a note to the President of the United States on the 12th instant, which accompanies this report, and in reply thereto the President addressed a note to the chairman on the 14th instant, which note also accompanies this report, appointing Friday, the 16th instant, to receive the committee, to communicate the aforesaid resolution of the Senate, and apprising the committee of his late message to the Senate containing the grounds on which he would be obliged to decline the proposed conference with the Upon due consideration of this reply the committee deemed it an incumbent duty to wait on the President according to his appointment and to present to him both the resolutions of the Senate in relation to the nomination referred to the committee, and did accordingly wait upon him and present them, when the President was pleased to observe to the committee, in substance, that he was sorry that the Senate had not taken the same view of the subject which he had done, and that he regretted that the measure had been taken under circumstances which deprived him of the aid or advice of the Senate. After the committee had remained a reasonable time for the President to make any other observations, if he thought proper to do so, and observing no disposition manifested by him to enter into further remarks, the committee retired without making any observations on the matter of the resolutions or in reply to those made by the President.

(Ex. Jour., vol. 2, pp. 352, 353, 388, 389; Annals, 13th Cong., 1st sess., 86, 87, 88.)

NINETEENTH CONGRESS, FIRST SESSION.

January 16, 1826.

On nominations of Richard C. Anderson and John Sergeant to be envoys extraordinary and ministers plenipotentiary to the assembly of the American nations at Panama, Mr. Macon reported as follows:

Your committee have examined the subject to them referred, with the most profound attention, and have bestowed upon it all the consideration demanded by its novelty, delicacy, and high importance to the character and future destinies of the United States. this examination the committee found themselves not a little embarrassed at first by the circumstance announced by the President in his message to both Houses of Congress, at the commencement of the present session, that he had already accepted the invitation given to the United States by some of the American Republics to be represented at the contemplated congress of American nations, about to be assembled at Panama. But seeing in the several communications made by the Secretary of State to the different ministers of these Republics that an express reference was made to the concurrence of the Senate as the indispensable preliminary to the acceptance of this invitation, and finding in the present message of the President the explicit assurance that he had not thought proper to take any step in carrying this measure into effect until he could ascertain that his opinion of its expediency would concur with that of both branches of the legislature, the committee believed it became a part of the duty they owed to the Senate, and would be evidence of the proper respect due to the President, that they should fully and freely examine into the propriety of the proposed measure, the expediency of adopting which was the subject that the Senate was thus invited to deliberate

upon and to make known their opinion.

Considerations of much higher importance than even these induced the committee to adopt this course. In the ordinary progress of their proceedings the Senate can rarely, if ever, find it necessary or proper to inquire as to the objects expected to be attained by appointments to which their advice and consent is asked. As to all offices created by statute, in which these objects are defined and their attainment positively required, the single question rising before the Senate must ever refer merely to the fitness of the persons nominated by the President to fulfill such duties. The same will generally be found the sole inquiry necessary to be made in filling up vacancies happening in preexisting foreign missions designed to maintain the customary relations and intercourse of friendship and commerce between the United States and other nations. Very different, however, is the case when it is proposed to create new offices by nomination, or to dispatch ministers to foreign States for the first time, or to accomplish by such mission objects not especially disclosed or under circumstances new, peculiar, and highly important. In all these cases, instead of confining these inquiries to the mere fitness of the persons nominated to fill such offices, it is not only the right but the duty of the Senate to determine previously as to the necessity and propriety of creating the offices themselves; and in deciding these questions not only the objects for the accomplishment of which it is proposed to create them, but every other circumstance connected with such a measure, must necessarily and unavoidably become an object of their serious examination.

This right, conferred by the Constitution upon the Senate, is the only direct check upon the power possessed by the President in this respect which, relieved from this restraint, would authorize him to create and consummate all the political relations of the United States at his mere will. And as, in the theory of their Government, the high destinies of the people of the United States are never to be confided to the unrestrained discretion of any single man, even the wisest and best of their fellow-citizens, it becomes a solemn duty which the Senate owe to the sovereign States here represented most seriously to investigate all the circumstances connected with the novel measure

now proposed by the President, as to the expediency of adopting which they have been invited to aid him with their counsel and advice.

Entertaining these opinions in the performance of the duty which they believe has been required by the Senate, and anxious to manifest to the President their high respect by complying fully with the wish which he has expressed upon this subject, the committee will proceed to investigate the circumstances connected with the measure proposed, and disclosed by the documents to them referred, most deeply impressed with the importance of the consequences that may very

probably result from it.

The first question which suggested itself to the committee at the very threshold of their investigation was, What cogent reasons now existed for adopting this new and untried measure, so much in conflict with the whole course of policy uniformly and happily pursued by the United States from almost the very creation of this Government to the present hour? By the principles of this policy, inculcated by our wisest statesmen in former days and approved by the experience of all subsequent time, the true interest of the United States was supposed to be promoted by avoiding all entangling connections with any other nation whatsoever. Steadily pursuing this course, while they have been desirous to manifest the most cordial good will to all nations, and to maintain with each relations of perfect amity and of commerce, regulated and adjusted by rules of the most fair, equal. and just reciprocity, the United States have hitherto sedulously abstained from associating themselves in any other way, even with those nations for whose welfare the most lively sensibility has been at all times felt and otherwise manifested.

During the conflict for freedom and independence, in which these new States of America were so long engaged with their former sovereign, although every heart in the United States beat high in sympathy with them, and fervent aspirations were hourly put up for their success, and although the relations then existing with Spain were well calculated to excite strong irritation and resentment on our part, yet the Government of the United States, convinced of the propriety of a strict adherence to the principles which it had ever proclaimed as the rule of its conduct in relation to other nations, forbore to take any part in this struggle, and maintained the most exact neutrality between these belligerents. Nor would it ever recognize the independence of these new Republics until they had become independent in fact, and the situation of their ancient sovereign in relation to them was such as to manifest that he ought no longer to be held responsible for their acts. So soon as this occurred the United States most gladly embraced the opportunity, and in being the first to proclaim the sovereignty and independence of these States, gave to them the strongest pledge of respect and cordial friendship, and sincere anxiety for their prosperity.

Since that event ministers have been dispatched to each of these new Republics, instructed to declare the sentiments sincerely and warmly felt for them by the United States, and empowered to conclude treaties with them, the objects of which should be to establish, upon principles of the most perfect justice and equity, all the ordinary relations that exist between nations. Thus much was due, not less to them than to ourselves; and in going so far we did all that our feelings dictated and the interest of either seemed then to require. What necessity has since arisen to do more? What cause exists now to prompt the United States to establish new and stronger relations with them, and

so to abandon the rule of conduct which has hitherto been here so

steadily and happily pursued?

These inquiries necessarily called the attention of the committee to a minute examination of all the documents to them referred, in order that they might therein discover the reasons assigned by the new States of America for desiring the United States to be represented at the congress about to be assembled at Panama, and the motives of the President for intimating his willingness to accept this invitation. And in making such an examination many reflections presented themselves as connected with the proposed measure, all of which the committee will now state to the Senate.

In a Government, constituted as is that of the United States, in which the sentiment so natural to freemen prompts them to scrutinize most exactly the extent of all the powers they grant, and to limit this extent by the objects desired to be accomplished by their exercise, the strongest anxiety is (and is to be hoped always will be) felt to learn distinctly what is the precise object desired to be attained, and what are the precise means proposed for its attainment. the confidence reposed in the long-tried patriotism and well-proved wisdom of our own best citizens does not and ought not to suffice to quiet this anxiety or to overcome this jealousy, inspired by an ardent attachment to our rights and privileges. It was, therefore, much to be desired, and certainly to have been expected that, before the destinies of the United States should be committed to the deliberation and decision of a congress composed not of our own citizens, but of the representatives of many different nations, the objects of such deliberation should be most accurately stated and defined and the manner of their accomplishment clearly and distinctly marked out.

In this opinion the President himself seems to have concurred at the commencement of this negotiation; for in the report made to him on the 20th of December last by the Secretary of State, this officer states that agreeably to his directions he had informed the ministers by whom the invitation to the proposed congress at Panama was given, that "before such a congress assembled, it appeared to the President to be expedient to adjust between the different powers to be represented several preliminary points, such as the subjects to which the attention of the congress was to be directed, the nature and the form of the powers to be given to the diplomatic agents who were to compose it, and the mode of its organization and action." And it was made an express and previous condition to the acceptance of the invitation proposed to be given, that "these preliminary points should

be arranged in a manner satisfactory to the United States."

It was, therefore, not without much surprise and regret that the committee discovered that, although in none of the communications subsequently made to this Government by either of the ministers of the several States by whom this invitation was given are these preliminary points even stated, and although the want of "a compliance with these conditions" is expressly noticed in the reply made to them by the Secretary of State, yet they were therein told that the President had determined "at once" to send commissioners to this congress at Panama, provided the Senate would advise and consent to such a measure.

If, then, the Senate should now demand of this committee to inform them what are the objects to be accomplished at this congress, and what are the means by which their accomplishment is to be effectedalthough as to objects the documents referred to them will enable the committee to name a few—yet as to all others they must answer in the language of the communication made by the Mexican minister, that they are those "to which the existence of the new States may give rise, and which it is not easy to point out or enumerate." As to the means, however, the committee can only reply that, while it seems to be expected that the United States are to clothe their representatives with "ample powers" to accomplish all the enumerated and these other undefined objects also, yet the mode in which these powers, if granted, are to be used and exercised, is nowhere even hinted at.

One great question, therefore, upon which the decision of the Senate is called for will be, whether in the existing state of things it is wise or expedient that the United States should be represented at a congress of American nations by agents endowed with undefined powers to accomplish undefined objects? And this committee feel no hesitation in stating as their opinion that, if ever it may be proper to adopt such a measure, there is nothing known to them that requires

or justifies it at this time.

It is true the power confided to the Senate to ratify or reject any agreement that may be entered into by such agents would constitute some safeguard to the important interests of the United States. But long experience must have informed the Senate that it is generally exceedingly difficult, and sometimes even impossible, to escape from the embarrassments produced by the mere act of entering into a negotiation; and that it is much better to abstain from doing so until its objects are distinctly known and approved than to confide in the power of the Senate, in the last resort, to refuse their assent to the ratification of an agreement after it is adjusted by means of such

negotiation.

In the present case, if the measures to be accomplished by the proposed congress, whatever may be their object or character, should not meet the concurring opinion of all the parties there to be represented, we need not the lights of history to inform us that many consequences, mischievous in themselves and greatly to be deplored, not only may but most probably will result. And that a difference of opinion will exist in regard to measures so important in themselves, and so various and diversified in their effects upon nations differing from each other in almost every particular, is much to be apprehended. The power possessed by the Senate of withholding its assent ought not, therefore, to be regarded as furnishing sufficient assurance against the possible and probable effects of the proposed measure.

Turning from the undefined objects of this congress, so imperfectly disclosed in the vague description given of them, that, if seen at all, they are presented most indistinctly to their view, and regarding those which are particularly mentioned and described with more precision, this committee have not been able to discover in anyone of these last a single subject concerning which the United States ought to enter into any negotiation with the States of America to be assembled at the

contemplated congress at Panama.

Before proceeding to the enumeration of these objects, the committee can not refrain from calling the attention of the Senate to a singular circumstance disclosed by the documents to them referred, although an enumeration of the subjects to which the attention of the proposed congress was to be directed was explictly stated as a condition preliminary to the acceptance by the United States of the invitation given to them to be represented; although each of the ministers giving this invitation had communicated this to his Government and

received its instructions relative thereto, yet great diversities will be found in the enumeration of these subjects, made by each of these ministers in pursuance of such instructions. And, what is still more remarkable, while many of the subjects of intended discussion so enumerated by these ministers are not referred to in the message of the President to the Senate, others are therein stated as matters for the deliberation of the proposed congress to which not the slightest allusion seems ever to have been made by anyone of the American ministers in any of their communications to this Government. Nay, one of the subjects (the most important, probably, of any which the United States are desirous to discuss at this congress) is neither noticed in the communications made to this Government by any of the American States nor in the message of the President to the Senate, and is to be only inferred from the documents last referred to this committee, received under the call made by the Senate for further information, all of which will be very clearly shown by the details which the committee will now lay before the Senate.

The first subject stated by the Mexican minister, as one which would occupy the attention of the contemplated congress and in the deliberations concerning which the United States are expected to take a part, is "the resistance or opposition to be made to the interference of any neutral nation in the question and war of independence between the new powers of this continent and Spain." And in the deliberation upon this subject it seems to be proposed "to discuss the means of giving to that resistance all possible force," and so to adjust, by previous concert, the mode in which each of the States represented

at the congress "shall lend its cooperation."

The same subject is also stated by the minister of Colombia, and in terms still more explicit. He suggests as a matter of useful discussion in the congress the formation of an "eventual alliance" of the States there to be represented, for the purpose of preventing any European power from interfering in the present contest between Spain and her former colonies, and that the treaty for this purpose should "remain

secret until the casus fœderis should happen."

Notwithstanding this is so stated by both of these ministers, as the first and great object of the proposed Congress, yet the President, in his message, assures the Senate "that the motive of the attendance of the United States is neither to contract alliances nor to engage in any undertaking or project importing hostility to any other nation." It thus appears that in relation to this first and most important point, which seems to have given birth to the scheme of this congress, the views and motives of the United States differ essentially from those of the other parties. And this difference of opinion, occurring as to the very first proposition, which is said to be "a matter of immediate utility to the American States that are at war with Spain," and is believed by them to "be in accordance with the repeated declarations and protests of the Cabinet at Washington," must unavoidably excite doubts as to "the interest we take in their welfare, and our disposition to comply with their wishes;" and would so contribute not a little to defeat other objects.

The next subject stated by the Mexican minister as presenting "another of the questions which may be discussed," and which he considers as being "in like predicament with the foregoing," is "the opposition to colonization in America by the European powers."

The minister of Colombia concurs in this enumeration. He places "the manner in which all colonization of European powers on the

American continent shall be resisted" at the very head of all the subjects of proposed discussion, and couples this with the former as an object to be effected by the joint and united efforts of all the States to be represented at the congress, who should be bound by a

a solemn convention to secure this end.

The President concurs in part in the opinion as to the propriety of attaining this end, but differs radically as to the mode of accomplish-"An agreement between all the parties represented at the meeting, that each will guard, by its own means, against the establishment of any future European colony within its borders," he thinks "may be found advisable." Now if this be meant, that each nation shall, by its own means, protect its own territories against all enroachments upon them, attempted by any European or other foreign State whatsoever, the committee can not discern either the necessity or expediency of entering into any formal agreement with other States to that effect, more than exists for reducing to treaty stipulations, any other of the high, just, and universally admitted rights of all Such an idea, however, is obviously not that suggested by the ministers of Mexico and Colombia and if more is meant to be comprehended in the agreement which the President thinks may be found advisable, every other article it would contain, must, in the opinion of this committee, violate all the well-settled principles of the policy of the United States, and put at hazard their best interest, without any adequate motive for so novel an experiment. In the one case the views and motives of the President differ again, essentially, from those of the other parties to be represented at this congress; and from the disclosure of these repeated differences of opinion, no good can And in the other, should the views of the President possibly result. concur with those of the other American States (which the committee do not believe), the mutual stipulations growing out of such an agreement would, in the opinion of this committee, prove fatal to the best interests of the United States, should the casus foederis ever happen.

To adjust the means of most effectual resistance to the interference of neutral nations, in the war of independence between the new powers of this continent and Spain; and of opposition to colonization in America by the European powers, are said by the Mexican minister to be "the two principal subjects" of intended discussion at the contemplated congress; and, indeed, are all the subjects of discussion which he particularly states. The minister of Colombia, however, extends his enumeration of the subjects of intended discussion somewhat further, and after mentioning those before stated, adds, as another, "the consideration of the means to be adopted for the entire

abolition of the African slave trade."

To this subject the President makes no allusion in his message; and, after the examination which it has received in the Senate during two successive years, this committee deem it quite unnecessary to say much in relation to it at this time. Some of the sovereign States here represented were the first in the world to proclaim their abhorrence of this traffic. Since the formation of this Government the United States have exerted (and, as this committee believe, have exerted effectually) all the means in their power to arrest its progress, so far as their own citizens were concerned; and if all other nations, and especially those holding possessions in America, would follow their example, the African slave trade would no longer exist. The United States, however, have not certainly the right, and ought never to feel the inclination, to dictate to others who may differ with them upon

this subject; nor do the committee see the expediency of insulting other States with whom we are maintaining relations of perfect amity, by ascending the moral chair and proclaiming from thence mere abstract principles of the rectitude of which each nation enjoys the

perfect right of deciding for itself.

The minister of Colombia states, as another subject of discussion at the contemplated congress, "on what basis the relations of Haiti, and of other parts of our hemisphere that shall hereafter be in like circumstances, are to be placed." To this matter, also, the President makes no allusion in his message. And, surely, if there is any subject within the whole circle of political relations, as to which it is the interest and the duty of all States to keep themselves perfectly free and unshackled by any previous stipulation, it is that which regards their future connections with any other people not parties to such an agreement. Of the propriety or impropriety of such connections each must ever be permitted to judge freely for itself, because the benefit or disadvantage to result from them must be peculiar and very different to each; and that relation which is highly desirable at one time may become hurtful at another. In the opinion of this committee, therefore, the United States should never permit themselves to enter into discussion with any foreign State whatever, as to the relations they should be obliged to establish with any other people not parties to such discussions. And the objections to such a course become infinitely stronger when the discussions are intended to refer not only to those who then exist, but also to others who may hereafter be considered as placed "in like circumstances."

These are all the points particularly suggested by the minister of Colombia as subjects of discussion at the contemplated congress. The minister of Guatemala, (who also unites in the invitation given to the United States,) has stated no particular subject as matter of discussion at this congress. He intimates, however, "that, as Europe had formed a continental system and held a congress whenever questions affecting its interests were to be discussed. America should also

form a system for itself."

How far their general suggestion meets the views of the President the committee are not enabled by any document to them referred, to decide. But they will present to the Senate their own ideas in relation to it; the rather because it seems now to be the prominent object of the proposed congress, the magnitude and variety of details belonging to which defied present enumeration and particular specification.

Without adverting to the great and obvious diversities existing between the States of this continent and those of Europe, by which the system here alluded to has been established—diversities growing out of the situation of their people, the nature of their governments, and the positions they occupy, not only in relation to each other, but to the rest of the civilized world—this committee will state as their opinion that no effect yet produced by the continental system of Europe is of a character to invite the States of this continent to take that system as a model or example fit for their imitation. The great object of the continental system of Europe is to preserve ancient institutions and relations, long known and well understood, in the position which they now occupy and for centuries have done.

The operation of this system is by the combination of powers and the application of mere force to arrest the progress of improvement in the science of government and in the condition of society; ends which all free States must reprobate as much as they do the means

employed for their accomplishment. If this were not so, however, a system formed for this continent for the same or even different objects, would most probably produce the worst effects. The short political existence of all the States on this continent, even of the United States themselves—the most ancient of any-hath enabled them to profit so little as yet by experience that it would seem rash to proclaim their perfection at this time, or to pledge any of them to perpetuate either their present institutions or existing political relations. Our own excellent Constitution is based upon the supposition of its own probable imperfections, and most wisely provides for its amendment whenever such defects shall be discovered to exist. can not, therefore, stipulate to preserve it as it is; and no compact with other States can be necessary to bestow upon each the power it now possesses to effect any change which experience may hereafter show to be beneficial to itself; and a stipulation to make such changes as the good of any others may hereafter require would either be futile

in itself, or must inevitably lead to discord and to wars.

This committee doubt, moreover, the authority of the Governments of the United States to enter into any negotiation with foreign nations for the purpose of settling and promulgating either principles of internal policy or mere abstract propositions as parts of the public law; and if the proposed congress is viewed but as a convenient mode of conducting a summary negotiation relative to existing interests, important to this continent alone, it not only may, but most probably will be considered by all other civilized nations as a confederacy of States therein represented for purposes as prejudical to the interests of the old, as they are supposed to be beneficial to those of the new. Many of the provisions in the different conventions already concluded between some of the new States, relative to this very Congress, and which are now public, are well calculated to create such a suspicion even if they do not justify a belief in its truth; and, whensoever this suspicion shall be entertained by the nations of the old world it must be obvious to all that consequences much to be

deplored will unavoidably result.

Nothing that can be done thereafter by any department of this Government in refusing to sanction the stipulations concluded at a congress regarded in this light will suffice to avert the calamity. And the United States, who have grown up in happiness to their present prosperity by a strict observance of their old well-known course of policy and by manifesting entire good will and most profound respect for all other nations, must prepare to embark their future destinies upon an unknown and turbulent ocean, directed by little experience and destined for no certain haven. In such a voyage the dissimilitude existing between themselves and their associates, in interest, character, language, religion, manners, customs, habits, laws, and almost every other particular, and the rivalship these discrepancies must surely produce among them, would generate discords, which, if they did not destroy all hope of its successful termination, would make even success itself the ultimate cause of new and direful conflicts between themselves. Such has been the issue of all such enterprises in past time, and we have therefore strong reasons to expect in the future similar results from similar causes.

The committee, having thus examined the several subjects of proposed discussion stated or alluded to by each of the ministers of the new states of America as matters of deliberations at the contemplated congress, will now proceed to the investigation of others, not men-

tioned or referred to by any of them, but exhibited in the message of the President.

The committee see nothing in the documents to them referred to prove that the states who originated the project of this congress and settled the subjects proper for its deliberation, and who most probably have already adjusted "the preliminary rules of that assembly," will admit as fit matters for discussion any others than those which they themselves have so previously announced. Should this be the case, the degraded position which the United States must then occupy at the congress must be apparent to all. Without adverting further, however, at this time to this consideration, the committee will enter into the examination of the several topics suggested by the President as though the discussion of them was a matter settled and already agreed.

The first of these subjects stated by the President is, "the establishment of principles of a liberal commercial intercourse." The motives for desiring this are stated to be that "the Southern American nations, in their intercourse with the United States, have sometimes manifested dispositions to reserve a right of granting special favors and privileges to the Spanish nation as the price of their recognition; at others they have actually established duties and impositions operating unfavorably to the United States to the advantage of other European powers; and sometimes they have appeared to consider that they might interchange among themselves mutual concessions of exclusive favor to which neither European powers nor the

United States should be admitted."

In considering these reasons, it can not escape the observation of any that in manifesting dispositions to establish such commercial relations the Southern American nations must have been actuated by the only motive that ever operates either upon nations or individuals in regard to their mere commercial intercourse—a desire fairly to advance their own interests, and a belief that they could by such means properly accomplish this end. If in this belief these nations are right, then the United States can scarcely be viewed as acting toward them in that spirit of generous kindness and fraternal friendship they have professed when they would strive to induce them to establish as liberal principles such as would be injurious to the interests of these southern nations themselves. And if they are wrong, it seems to this committee that the task of exhibiting their errors may be much better performed, as hitherto it hath been, by particular discussions with each separately than by general demonstrations made to all, assembled as a congress.

The interests of commerce are necessarily peculiar; they grow out of numerous circumstances produced by locality, climate, population, manners, customs, and other causes, no one of which exists alike in any two nations on the globe. Few general principles, therefore, can ever apply with equal truth to so many peculiarities, and such as do so apply need not the sanction of solemn compact to give them effect. They may be very safely confided to the natural disposition of man promptly to discover and eagerly to advance his own best

interests.

Whatever dispositions then may have been manifested by the southern nations of America, this committee think that their effects, both upon themselves and the United States, will constitute subjects much more fit for separate discussion with each than of general investigation before all. And the committee are the more confirmed in this

opinion by the assurance given by the President in this message that "in most of these cases their regulations unfavorable to us have already yielded to friendly expostulation and remonstrance," and by the fact that the treaties recently concluded between these states contain express stipulations that in no event will they agree or enter into any treaty with Spain or any other nation to the prejudice of their independence, but to maintain at all times their mutual interests with the dignity and energy proper to free, independent states.

It is true a difference of opinion appears to exist at present between the United States and one of the new republics of America in relation to a single principle of their commercial intercourse. When the Senate recollect, however, that treaties have been already concluded between the United States and three others of these republics in each of which treaties this point has been settled as the United States themselves think right, the committee believe that the Senate will concur with them in the opinion that it is much better to continue the discussion of this subject with the dissenting state singly, urging upon her the example of her sister states, than to put in hazard the stipulations already secured by voluntarily entering into an examination of their

expediency before the contemplated congress.

'The consentaneous adoption of principles of maritime neutrality favorable to the navigation of peace and commerce in time of war" is the next object which, in the opinion of the President, should "also form a subject of consideration of this congress." In relation to this, so far as it regards the commerce of peace, the committee have already expressed their opinion; and so far as it is intended to settle the rules of war as applicable to navigation, the committee will only remark that there exists so much risk of compromising and destroying the relations of neutrality which the United States are now maintaining should they involve themselves by any compact relative to belligerent rights entered into with only one of the parties to the present war, during its continuance, that, in their opinion, it would be highly inexpedient to make such an experiment at this time. Any principle relating to the rights of war which one of the parties in the existing contest may be willing to adopt as promoting its interests could scarcely be regarded with indifference by the other. And the great maritime states of Europe would most probably consider that the United States had seized the occasion of this war to enter into a confederacy with the other states of this continent, now actually engaged in it, for the purpose of settling principles intended to affect materially their future interests.

It is well known to the Senate, moreover, that treaties already exist between the United States and several of the new states of this continent in which all the subjects alluded to by the President in this part of his message are already settled; and no reason is known to this committee to excite the slightest doubt that the others of these states with whom treaties are not yet concluded will feel any disinclination

to enter into similiar stipulations for themselves.

"There is yet another subject [says the President] upon which, without entering into any treaty, the moral influence of the United States may, perhaps, be exerted with beneficial consequences at such a meeting—the advancement of religious liberty." And as a motive for making an effort to accomplish this object, he states, that "an exclusive church has been incorporated with the political institutions of some of the southern nations, without toleration of any other than the dominant sect."

In the opinion of this committee there is no proposition, concerning which the people of the United States are now and ever have been more unanimous than that which denies not merely the expediency. but the right of intermeddling with the internal affairs of other States, and especially of seeking to alter any provision they may have thought proper to adopt as a fundamental law, or may have incorporated with their political constitutions. And if there be any such subject more sacred and delicate than another, as to which the United States ought never to intermeddle, even by obtrusive advice, it is that which concerns religious liberty. The most cruel and devastating wars have been produced by such interferences; the blood of man has been poured out in torrents, and, from the days of the crusades to the present hour, no benefit has resulted to the human family from discussions carried on by nations upon such subjects. Among the variety even of Christian nations which now inhabit the earth rare indeed are the examples to be found of States who have not established an exclusive church, and to far the greater number of these toleration is yet In none of the communications which have taken place is the most distant allusion made to this delicate subject by any of the ministers who have given this invitation, and the committee feel very confident in the opinion, that if ever an intimation shall be made to the sovereignties they represent, that it is the purpose of the United States to discuss at the proposed congress their plans of internal civil polity, or anything touching the supposed interests of their religious establishments, the invitation given would soon be withdrawn.

The committee have thus exhibited to the Senate, in detail, all the subjects which they have been enabled to find particularly stated, either by the President in his first message, or by any of the ministers of the new States of America, as matters intended to be discussed at the contemplated congress. In reviewing these they will repeat that a concurrence of opinion does not seem to exist between the different parties as to the subjects of deliberation, nor has the mode of discussion or decision been in any way settled between them. In relation to some of the subjects alluded to as fit matters for consideration, differences of opinion, radical and irreconcilable, seem already to exist, which discussion may aggravate, but can not assuage. As to others, their very agitation in this mode threatens seriously the compromitment of the neutral relations which the United States are now maintaining, and have so carefully observed throughout this whole Others, again, are unfit subjects for deliberation in this mode at all times, and any agreement resulting from their discussion must impair the freedom of action which it is necessary for the United States to preserve as to these, and, as to the residue, they are either not of sufficient importance to require the adoption of this new and untried experiment of a congress of nations, or may be much better adjusted and settled in separate negotiations with each than in a general conference with all. For these reasons, if there were none other, this committee should regard the adoption of the measure proposed

by the President as highly inexpedient at this time.

Although in the message of the President of the 9th instant no new subject of deliberation at the contemplated congress is specially stated, yet, from the documents accompanying that message and therein referred to as containing information tending to show the expediency of adopting the proposed measure, it appears to this committee that the present and future condition of the remaining Spanish possessions in America are considered as proper matters to be there agitated and

settled. Such being the inference of the committee, they will proceed

to lay before the Senate their opinion upon this subject also.

The committee are well aware that the United States can never regard with indifference the situation and probable destiny of the neighboring Spanish Islands of Cuba and Porto Rico; but so far from believing it expedient to discuss these subjects at a congress of all the American States, and especially at this time, the committee consider the great probability that such a discussion might be forced upon the United States, if they are there represented, as a circumstance furnishing in itself the strongest objections to the adoption of the measure proposed.

If the existing war between Spain and the new States of America continues, the United States could scarcely endeavor to arrest the progress of that war in the only direction it can hereafter take, or prevail upon one of the belligerents not to strike their enemy where alone he is now assailable and vulnerable by them without announcing a determination to take part in the contest; and if peace shall happily be restored, all apprehension of the effects of such a blow must cease, of course. Why, then, discuss the merits of such a question which it seems probable will never arise? Or why place the United States in such a situation where, if the question does arise and they must speak, the language which they utter must be regarded as equally unfriendly to all the new States; and where if the United

States keep silence this very silence will be misinterpreted?

Should the situation or policy of the United States induce them to look with indifference upon the new direction that the existing war may take, and to abstain from all interference in it, even though the neighboring islands of Cuba and Porto Rico may be threatened or assailed, then the very annunciation of such a purpose must contribute much to accelerate an event that can not be desired by us. In whatever light, therefore, this subject is viewed it does not seem to be one which the United States should discuss with the other American States assembled at a congress. The inexpediency of pursuing such a course appeared more obvious to this committee when they considered that many of the nations of Europe must also feel that their interests were materially involved in its decision, and that they would not abstain from making some movement in relation to it which must greatly embarrass any course that the United States may wish here-

after to pursue.

While the United States retain the position which they have hitherto occupied and manifest a constant determination not to mingle their interests with those of the other States of America, they may continue to employ the influence which they possess, and have already happily exerted, with the nations of Europe in favor of these new republics. But if ever the United States permit themselves to be associated with these nations in any general congress assembled for the discussion of common plans in any way affecting European interests they will by such an act not only deprive themselves of the ability they now possess of rendering useful assistance to the other American States, but also produce other effects prejudicial to their own interests. Then the powers of Europe who have hitherto confided in the sagacity, vigilance, and impartiality of the United States, to watch, detect, announce, and restrain any disposition that the heat of the existing contest might excite in the new States of America to extend their empires beyond their own limits, and who have therefore considered their possessions and commerce in America safe while so guarded,

would no longer feel this confidence. Each would therefore endeavor to secure its own interest by its own means, and the power of Spain not being considered by any as equal to the protection of her remaining American possessions, a struggle would probably commence who should first obtain the islands of Cuba and Porto Rico, the possession of which must ever be of the last importance to the commerce of this hemisphere. Or, if such should not be the case, the interest of many European nations might seem to require that they should make common cause with Spain for the purpose of preventing these islands from falling into other hands. To the United States it would be of little moment which of these events should occur. For it can not be expected that any such contest could be carried on so near them without the most imminent danger to their neutrality.

The very situation of Cuba and Porto Rico, therefore, furnishes the strongest inducement to the United States not to take a place at the contemplated congress, since by doing so they must be considered as changing the attitude in which they have hitherto stood as impartial spectators of the passing scenes and identifying themselves with

the new republics.

These reasons, strong as they have appeared to this committee, are not the only objections to the proposed measure disclosed by the documents to them referred. The manner in which this invitation has been given of itself furnishes many forcible obstacles to its acceptance; and, in the opinion of this committee, the United States will neither consult their own dignity nor what is due to the proper respect they have a right to claim from all nations, and especially from the new States of America, if they now agree to cooperate in carrying

this proposed measure into effect.

The history of the transaction, so far as it is disclosed to this committee, seems to be this: So early as the year 1821, the project of assembling a general congress of their representatives to consider and adopt the best plan for defending the States of the New World from foreign aggression and to conclude treaties of alliance, commerce, and friendship for the promotion of their happiness and prosperity appears to have been conceived by one at least of the new States of America. This scheme of forming a continental system for America, to resemble that already formed in Europe, was communicated to the others of these States, who, concurring in the project, negotiations were instituted between them for the purpose of concluding conventions to

provide for this object.

The plan being so far matured, the United States were, for the first time, informally applied to, during the last spring, by the ministers of two of the new States, separately, to learn whether an invitation to be represented at this congress, if given by both these republics, would be accepted. To this communication, informally made, the President as informally replied that he believed such a congress as was proposed might be highly useful for several purposes, but that before it assembled it appeared to him expedient to adjust between the powers to be represented several preliminary points, such as the subjects to be discussed, the nature of the powers to be given to the agents who were to compose it, and the mode of its organization And if these preliminary points could be arranged in a manner satisfactory to the United States, the ministers to whom this communication was made were informed that the President thought the United States ought to be represented at the contemplated congress. Each minister undertook to transmit to his government this answer thus given.

The affair remaining in this posture as to the United States, the negotiations previously entered into between the new States were brought to a close, and conventions provided for the objects of the proposed congress were actually concluded, some of them so far back

as the 6th day of July, 1822.

After the conclusion of all these conventions, and only a few weeks since, during the month of November last, separate formal communications were made to the United States by the ministers of Mexico, Colombia, and Guatemala, respectively, disclosing some of the objects intended to be discussed at the proposed congress, in the manner already stated by the committee, and giving the invitation to the United States to be there represented. In some of these communications the United States were informed that instructions and ample powers for the attainment of the proposed objects would be given by at least one of the new republics, and a wish was expressed that the agents of all the others might bear the same. In none, however, is any mention made either of the mode of organization or action of the congress, nor is it anywhere stated who would be the parties, or what representatives were either invited, expected, or would be received. But in the very communication which conveys the information already stated, the United States were told that at the date of that communication (November 3) the representatives from Colombia, Peru, Guatemala, and Mexico would have arrived at Panama, the agreed place of assembling, and would be engaged in settling the preliminary rules of the assembly and in discussing the questions which should be supposed by them to belong exclusively to the belligerents.

It thus appears that after everything relative to the meeting of the proposed congress had been settled by formal negotiations and treaties between themselves, the United States have been thus loosely invited by the other American States, as if it were mere courtesy, to attend its deliberations. Should the United States accept such an invitation, the deputies whom they may send to Panama will there be associated with they know not whom, or for what purposes, or in what mode. When these deputies shall inquire of the congress as to any of these important particulars, they will receive the information they ask, in resolutions and compacts adjusted and concluded before their arrival. And if, waiving all these things, which none ought to consider as mere ceremonials, the agents of the United States should take the places previously assigned them and propose to take a part in the discussions, they will find all the leading principal topics for

deliberation already passed upon and concluded.

The committee are well aware that the interest and character of free States should never be permitted to rest upon matters of mere fastidious etiquette and ceremonious observance; but even in the intercourse between individuals, and much more in that between sovereignties, there is a point at which form becomes a substance and when scrupulous attention to the most minute ceremonials that comity and respect exact is due to the sacred character and dignity of the Republic. At that point the committee believe the United States should ever make a stand, and, resting there, should always exact, even from the most ancient and puissant sovereign of the earth, everything required by their own self-respect. Nor should anything be then waived, even to manifest their sensibility to whatever concerns the prosperity of the American hemisphere or the sincere friendship which they feel for these new Republics.

As the most ancient State in the New World, the first acknowledged

sincere friend of those more recently existing; as a State from whose greater experience more light is said to be expected to be shed upon the subjects to be discussed and the principles to be established at the contemplated congress than from the other States, the United States had a right to expect that when this project of a congress of American nations was conceived, it should have been communicated to them as early as to any others whose presence, by their representatives, was deemed desirable. That they, too, should have been asked whether such a measure would be acceptable; that they, too, should have been consulted as to the time, the place, and the manner of assembling such a congress; that they, too, should have been permitted to assist in the enumeration of the subjects to which its attention might properly be directed in the adjustment of the nature and form of the powers to be given to the diplomatic agents who were to compose it, in the mode of its organization and action, and, above all others, in the settlement of the great question who should be invited to take part in its deliberations. The United States had, also, a right to expect that the result of all such consultations should be fixed and secured by solemn pacts and conventions, in which they, too, should be parties.

Such the committee believe ought to have been and would have been the course pursued by the United States toward the other American States if the project of convening a congress of American nations had occurred to us as a measure useful and beneficial to the American continent, and being never disposed to exact from others more respect than, in like circumstances, they are willing themselves to pay, the United States, in the opinion of this committee, would themselves, even if an opinion should be entertained that anything exists requiring the adoption of such a measure at this time, courteously decline the invitation given under the circumstances stated, and to institute the proper proceedings necessary to its consummation in the mode which friendship, comity, and deference to others require. Such a movement belongs to the high character which the United States enjoy in the estimation of all the world, the merit of which is accorded to them by none more willingly than by the new-born States of this continent; and if it be not now made the time will go by when the

position may ever hereafter be properly assumed.

The committee would not be understood as suggesting the expediency of any such measure at this time. In their opinion, there exists no adequate motive to induce its adoption. Every spot known or habitable in America is already appropriated by different nations, whose rights of territory all recognize; and if trifling differences may exist between any upon the subject of mere common boundary, these differences constitute fit matter of friendly discussion between them The idea of colonization in America, therefore, no longer exists; and in the present posture of nations there is little reason to apprehend the willful encroachment of any upon the American possessions of another. Each passing hour strengthens the just claims which the new states of America have preferred to be recognized as sovereign and independent by all other nations; and the quiet efflux of time, if it has not already done so, must very soon place their sovereignty upon the same basis on which rests that of the most ancient nations of the earth. Spain possesses not the ability to give any of them cause of serious concern; and enjoying the friendship and proclaimed recognition of Great Britain and of the United States, there is no sufficient reason to apprehend the interference of any European

nation in the question of war and of their independence. Compacts have been already concluded or are now negotiating between each of the states of this continent wherein their mutual interest, both general and particular, will be firmly fixed upon principles of the most perfect justice and liberal equity. And no common subject now remains of sufficient magnitude to require a movement so new and important as the assembling of a congress of all the American nations, which can not but excite suspicion and jealousy in the other hemisphere, and might so affect injuriously the interests of the new States themselves.

Should this happy state of things ever change, the lively interest which the United States have ever taken in the welfare of these their sister sovereignties ought to be regarded by them as the surest pledge that we can not be indifferent to anything that concerns them. An eye the most vigilant we shall ever direct to their prosperity; the appearance of the first cloud rising to obscure its light will be announced to them; and the United States will then manifest the deep interest which they feel in the elevation and happiness of all the

nations of the New World.

When such an event shall occur, the United States will probably be the first to solicit the assembling a congress of American States; and the invitations which they shall then give to others to be there represented will be such as their friendship and respect shall dictate, and upon terms which the most fair and liberal principles of policy require. The same, this committee have no doubt, would have been the character of the invitation given to the United States upon this occasion if the new States of America, when they conceived or matured the scheme for assembling the congress at Panama, had entertained the most remote idea that the United States either would or ought to be there represented. All the conventions concluded between these States, however, prove beyond doubt that even at the date of the most recent of their compacts none others were expected or desired to be represented at this congress but the States of America who had formerly been colonies of Spain and who were then engaged in war with That the great object of this congress was to adjust between themselves the most effectual means of conducting this war to the most speedy and happy conclusion; and that the presence of no neutral State could therefore be anticipated.

Before they conclude their report, the committee beg leave to remark that the intimation given by the President, in his first message to the Senate, that this measure, in which he had thought proper to take no step before ascertaining that his opinion of its expediency would concur with that of both branches of the Legislature, was, nevertheless, "deemed by him to be within the constitutional competency of the Executive," did not escape their observation. But, as the correctness of this opinion entertained and expressed by the President will constitute proper matter for the deliberation and decision of the Senate, when they shall enter upon the consideration of a resolution now lying on the table, and not referred to this committee, they did not believe that they were authorized by the Senate to consider this subject. The committee therefore forbear from saying anything in

relation thereto.

The committee feel most sensibly the embarrassing situation in which they are placed. On the one hand, the duty which they owe to themselves, and to the Senate, and to the President required that they should examine fully and freely the measure proposed, and should state the reasons that lead to the conclusion, which they felt

themselves bound to adopt. On the other, they were well aware that the adoption of this conclusion and the assignment of the reasons which produced it might contribute not a little to embarrass the President, whose acceptance of the invitation given was already announced. Placed in this delicate situation after bestowing upon the subject the most mature consideration, believing it to be a sacred duty which the Senate owed to the sovereign States that they here represent, to exercise the constitutional power conferred upon them, by examining, at this time, every feature of this new project and deciding upon its expediency or inexpediency, as to them might seem right, the committee could not hesitate to disclose all their views in relation to this important matter in order that these, being fully exhibited to the Senate, might be by them either adopted or corrected.

The committee were induced to adopt this course with less reluctance by the assurance given by the President that, until he could be aided by the advice and consent of the Senate, he would take no step to carry the measure which he had proposed into effect. Most willingly would the committee recommend to the Senate to abstain from pronouncing any opinion upon this now delicate subject if they could permit themselves to propose to this body a dereliction of its bounden duty or the adoption of any course that might lead it to shrink from its high responsibility. But, convinced that the Senate had the right and were bound to decide directly upon the expediency of this new scheme without limiting their decision to the mere nominations connected with it, and convinced that the project itself, viewed in any light, was highly inexpedient at this time, the committee thought it better to exhibit these their views and to advise the expression of the opinion of the Senate in relation thereto in the first instance.

(Ex. Jour., vol. 3, pp. 473, 474; Cong. Deb., vol. 2, pt. 2, Appendix, p. 92.)

TWENTY-SECOND CONGRESS, FIRST SESSION.

February 8, 1832.

On the nomination of Hugh S. Legaré to be chargé d'affaires to

Belgium, Mr. Tazewell reported as follows:

That they have instituted every inquiry which to them seemed necessary, with the view of informing themselves and of enabling them to report to the Senate as to the character and qualifications of the nominee for the office, to fill which he has been nominated by the President. The result of these inquiries has satisfied them that Mr. Legaré is well qualified to discharge all the duties of the station to which he has been nominated with honor to himself and usefulness to his country, and that he is in every way unobjectionable. But the committee are further satisfied that there exists no reason at this time which renders it necessary or expedient to enlarge the diplomatic relations of the United States by sending a diplomatic agent of any grade to the King of Belgium. For this reason only they recommend to the Senate the adoption of the following resolutions:

Resolved. That it is not expedient at this time to appoint any charge d'affaires from the United States to the King of Belgium.

Resolved, therefore, That the Senate do not advise and consent to the appointment of Hugh S. Legaré to such an office.

(Ex. Jour., Vol. 4, p. 207.)

TWENTY-FOURTH CONGRESS, FIRST SESSION.

March 3, 1836.

On the nomination of Andrew Stevenson to be minister to Great

Britain, Mr. Clay reported as follows:

That on the 30th of May, 1834, Andrew Stevenson was nominated for the same office, and on the 24th of the succeeding month, he was rejected by the Senate; that Martin Van Buren, of New York, had been previously nominated for the same office, and, on the 25th of January, 1832, had been rejected by the Senate; that it remained vacant from this time until the nomination of Mr. Stevenson, and it has continued vacant from the time of his rejection. This office has therefore, been unoccupied during a term of more than four years.

When Mr. Stevenson was first nominated, he was the Speaker of the House of Representatives of the United States, which office he resigned on the —— day of June, 1834. While that nomination was under consideration, it appeared to the Senate that the Secretary of State had, on the 15th of March 1833, addressed an official note to Mr.

Stevenson, in which the Secretary said:

I am directed by the President to inform you, confidentially that, as soon as advices shall be received that the British Government consent to open negotiations with this, which are daily expected, it is his intention to offer you the place of minister plenipotentiary to the Court of St. James: and he requests, that, should this appointment be agreeable to you, you would hold yourself in readiness to embark in the course of the summer. I congratulate you, sir, on this mark of the President's confidence.

This note was received by Mr. Stevenson; but, if he returned a

direct answer, it did not appear to the Senate.

Subsequent to the receipt of this note, in April, 1833, Mr. Stevenson was elected a member of the House of Representatives from the State of Virginia; took his seat at the commencement of the session of Congress in the December following; was elected Speaker of the House, and continued to discharge the duties of that office until he resigned

it, as hereinbefore stated.

It appeared further to the Senate that, shortly after Mr. Stevenson received the note of the Secretary of State before mentioned, he had an interview and consultation with Mr. Thomas Ritchie, his friend and neighbor, and the editor of a leading newspaper supporting the Administration, published at Richmond in Virginia, on the subject of the contents of that note. In that interview, Mr. Ritchie, in a letter to Mr. Stevenson in June, 1834, says it struck him that the President might appoint Mr. Stevenson in case the contingency happened during the recess, and did not send him, but Mr. Livingston, to France.

I suggested [says he] that these appointments ought not and could not be made, according to the spirit of the Constitution, during the recess of the Senate. You [Mr. Stevenson] promptly and cordially concurred in this view of the subject and I then determined to write to a friend in Washington for the purpose of laying this view before the President himself. You approved of my doing so, and, in fact, we agreed perfectly in the course to be taken. We determined to take no notice of Mr. Livingston's letter: to act yourself as if no letter had been written, and that it would be best not to offer to accept the appointment if made in the summer, and to wait the action of the Senate, etc.

In pursuance of the plan thus arranged between Mr. Stevenson and Mr. Ritchie the latter, in March, 1833, addressed two letters to Mr. W. B. Lewis, at the city of Washington, who was the friend and enjoyed the confidence of the President, and held the office of Auditor. Extracts from these letters were furnished by Mr. Lewis, and presented to the

Senate on the occasion of the first nomination of Mr. Stevenson. Mr. Ritchie says to Mr. Lewis:

I am about to address you on a subject which has caused much speculation among our friends and great uneasiness in my bosom. I speak to you as a friend, and without the slightest reserve. The papers have recently spoken of a batch of appointments which the President is about to make, embracing the two highest missions to European courts and the two highest seats in his Cabinet. I have conversed freely with our friend Stevenson upon them, and I have this day communicated to him my intention to write to you and to lay before you my views on

the matter.

We have the utmost confidence in the virtue of General Jackson. We have no idea that he would arrogate to himself new powers at the expense of the other Departments of the Government. His generous ambition has been fully satisfied. He has nothing more to ask of his country than her verdict of approbation when he lays down the high and difficult office with which he is intrusted. We all know it, and every candid individual admits it. We believe that the course he may pursue will be to a single eye to the public interest. But while we dismiss all apprehensions that he will designedly abuse his authority, we wish at the same time that he would do no act which may be plead hereafter by an unworthy successor in justification of his acts. In this last term of his Administration we wish to see no precedent set which may be perverted in future times; we desire it on our own account as well as that of our country. We wish to see his Administration set in glory, and we wish to see our country benefited in all time to come by his pure example. But this can not be, if any error should be committed against principle, even from the best of motives: if any authority should be assumed which does not fairly belong to him, or even if any doubtful power should be exercised upon any delicate branch of the Constitution, his high popularity would only make it more current. One of the highest powers which attaches to the Executive is that of appointment; over its exercise is accordingly thrown, and wisely thrown, the check of concurrence by the Senate. Now, sir, doubts do exist whether the vacancy in the missions of London and Paris did not originally occur during the recess of the Senate. Secondly, whether the vacancy does not still exist; and thirdly, whether it ought now to be filled without a consultation with the Senate.

The letters from which these extracts were taken having been written expressly with a view of being laid before the President, there can be no doubt that it was done. Their main object—that of preventing the appointment of Mr. Stevenson in the vacation of the Senate—was secured. The President forebore to make it, and waited until the Senate assembled at the ensuing session before the nomination was made.

It is stated by the President in his message of the 13th of June, 1834, communicating the note of the Secretary of State to Mr. Stevenson, that the negotiations to which it refers were commenced early in April, 1833, in the city of Washington, instead of London, and as they have been since conducted here no further communication was made to Mr. Stevenson. What these negotiations were has not been stated. Whatever they might have been, the residence of a minister of the United States at London at all times is obviously proper, and that the appointment of Mr. Stevenson did not depend upon any particular negotiations is manifest from the fact of his having been finally nominated for the office. If the President had abandoned all intention of sending him to England, inasmuch as he had been requested to hold himself in readiness to go during the summer of 1833 and had not declined the offer, he would probably have been notified of the change of the views of the President.

The Senate saw, therefore, that a promise of the mission to Great Britain had been communicated to Mr. Stevenson on the 15th of March, 1833. They saw an indirect intervention, with Mr. Stevenson's knowledge and acquiescence, to prevail upon the President not to make the appointment in the vacation of the Senate, in accommodation with

the views of Mr. Stevenson and his friend Mr. Ritchie. They saw that the President did forbear to make the appointment in the vacation of the Senate. And they saw the final execution of the promise, as far as it depended upon the Executive, by his nomination on the 30th of May, 1834. During this long interval, he had been elected by the people of a Congressional district in Virginia as their Representative, ignorant of his having possession of such an official promise; he had been elected, under like ignorance, by the House of Representatives as their Speaker, and in that station had performed all the highly important duties incident to it. That office, at all times one of great influence, possessed more than ordinary weight in the session of The President, some time before its commencement, had directed the public deposits to be drawn from the Bank of the United States and placed in the local banks. That measure excited deep and general sensation throughout the country; divided the people; divided the constitutional advisers of the President; divided Congress, and became a subject of warm and animated discussion in both Houses. It was at this extraordinary period that the Speaker of the House of Representatives, invested with the power of appointing and arranging the committees of the House, and wielding a great influence, secretly held a written official promise of the important mission abroad, everybody being ignorant of the fact except himself, the President, the Secretary of State, and a few confidential friends.

It was under these circumstances that his nomination came up for consideration in the Senate. It is a fundamental principle of free governments, that, in order to preserve the purity of their administration, each of the three departments into which, according to all safe maxims, they are divided, should be kept independent of, and without the influence of the other. But, if the head of one of these departments may, at a critical period, confidently present, and for a long period of time hold up to the presiding officer of the popular branch of the other, the powerful inducement of a splendid foreign mission, is there not imminent danger of undue subserviency—of a failure of that presiding officer faithfully and independently to dis-

charge the high duties of his exalted station?

The Senate thought there was, and withheld its advice and consent to the nomination of Mr. Stevenson as minister to Great Britain. And now, after the lapse of nearly two years, with all the circumstances by which his original nomination was attended remaining in full force but with considerable variations in the composition of the Senate, the same individual is again nominated by the President for the same office. Doubtless, a place more than any foreign appointment important to be constantly occupied, has not been kept vacant with a view to or in expectation of any such variations. Doubtless, in the ample field for selection which the intelligence and patriotism of near fifteen millions of people offer some individual equally well qualified with, and less exceptionable than, Mr. Stevenson, might be designated to represent the United States at the Court of St. James. Doubtless, no personal feelings or wishes to achieve triumph over the Senate can have prompted the renewal of this nomination.

Whatever may have been its motives, the committee neither know nor have anything to do with them. They are not themselves aware of any peculiar fitness in Mr. Stevenson, or any absolute necessity of deputing him, and him only, as the minister of the United States to Great Britain. In ordinary times the fact of his being unacceptable to a large portion of the Senate, even if that did not constitute an actual majority, would be regarded as deserving of consideration. In a free government it should be the aim of those who administer it to promote harmony in the public councils and satisfaction among the

people.

The Senate of the United States is supposed to be, by the theory of the Constitution, as free and independent in the exercise of its judgment on nominations submitted to its consideration as the President is in proposing them. Each of the two components of the appointing power acts upon its own sense of duty and upon its own responsibility. The Senate has no right to require the President to nominate any particular individual, and the President has no right to require the Senate to confirm any particular nomination. When the Senate has once decided upon a nomination, there ought to be an end to the matter.

Prior to the present administration instances of renomination were rare, and are believed to have occurred only when some indication was given from the Senate of a desire that it should take place. has of late become more frequent. The practice is liable to great abuses. A President disposed to grant favorities to public offices, and finding a Senate disagreeing with him as to their fitness, may forbear for a long time, to the detriment of the public services, to nominate any person to fill them, until, from those changes of individual members, to which all collective bodies are liable, a Senate happens to be formed more yielding and complying. When a nomination is once rejected the exact state of the votes of the Senate is known to the President; and if the practice of renomination is indulged, in process of time there will be danger of the existence or the imputation of corruption. The committee think that the practice ought to be resisted; and when the Senate has once rejected an individual nomination the decision ought to be held as final and conclusive, and that it ought not to confirm the nomination of the same person when made again for the same office without strong special cause. In the present case no such cause is alleged or known to exist, while all the considerations which formerly opposed the confirmation of Mr. Stevenson continued in unabated strength. The committee therefore recommend the adoption of the following resolution:

Resolved That the Senate do not advise and consent to the appointment of Andrew Stevenson as minister plenipotentiary and envoy extraordinary to Great Britain.

(Ex. Jour., Vol. 4, p. 513; Leg. Jour., p. 577.)

TWENTY-FIFTH CONGRESS, SPECIAL SESSION SENATE.

March 8, 1837.

On nominations of John R. Conway and Hiram G. Runnels to be commissioners to run the southwestern boundary line of the United

States, Mr. Buchanan reported as follows:

That the treaty of January 3, 1828, fixed the boundary line between the United States and Mexico, but the provision which was made for the running and marking of the line was not carried into execution within the time limited by its terms. To remedy this omission, a convention was concluded at the City of Mexico on the 3d of April, 1835, between the contracting parties, under which each of them engaged to appoint a commissioner and surveyor to run and

mark this boundary line within one year from the exchange of the ratifications, which took place at the city of Washington on the 20th of April, 1836. It was doubtless for the purpose of executing this convention that a clause was inserted by Congress in this bill to provide for the civil and diplomatic expenses of the Government for the year 1837, appropriating the salary and expenses of a commissioner and surveyor; and the President of the United States has therefore felt it to be his duty to send nominations of these officers to the Senate.

Your committee believe, however, that the recognition of the independence of Texas by the United States has entirely changed the aspect of this affair. Mexico has no longer any control over the boundary question; Texas has become the party interested in its adjustment. If the United States would appoint a commissioner and surveyor, and they should be met by a commissioner and surveyor appointed by Mexico, this would be a violation of the rights of Texas, whose independence has just been recognized by the United States.

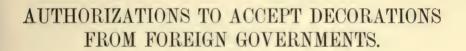
The committee are sensible that, under the law of nations, Texas, which was a part of Mexico when the treaty of 1828 was concluded and ratified, is not released from executing its provisions in consequence of having since become an independent State. They deem it more politic and wise, however, under the existing circumstances to permit the question to rest for the present. The mode and manner of executing the treaty of 1828, in regard to the boundary line, will properly become the subject of negotiation between the United States and Texas in case the latter should maintain her independence.

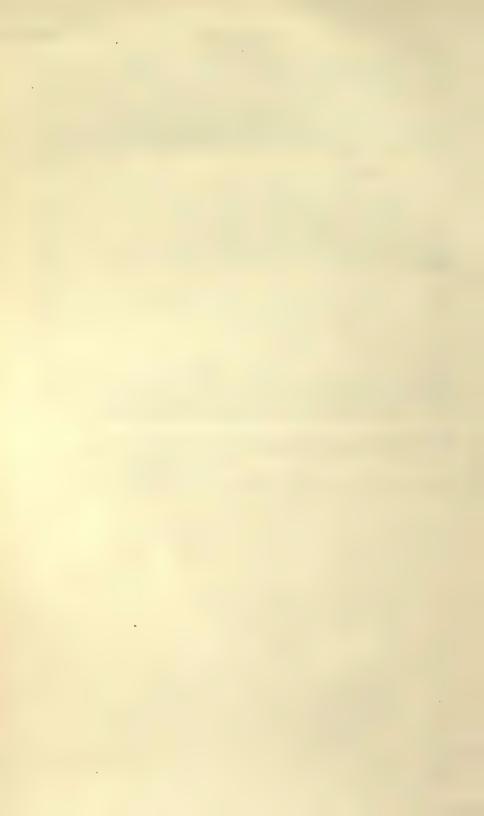
The committee therefore recommend the adoption of the following

resolution:

Resolved, That the nomination of Hiram G. Runnels to be commissioner and that of John R. Conway to be surveyor, to run the southwestern boundary line of the United States, be laid on the table.

(Ex. Jour., vol. 5, p. 22.)





AUTHORIZATIONS TO ACCEPT DECORATIONS FROM FOREIGN GOVERNMENTS.

FIFTH CONGRESS, SECOND SESSION.

May 2, 1798.

On letter from Thomas Pinckney, late minister plenipotentiary of the United States to His Catholic Majesty, requesting the direction of Congress in respect to the acceptance of the customary present from that Government, and also one from His Britannic Majesty, made in conformity to the usage of those powers, respectively, to a foreign minister, on negotiating a treaty, Mr. Sedgwick reported as follows:

Be it resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That Congress doth consent that Thomas Pinckney, esq., who, as envoy extraordinary of the United States, negotiated the treaty of friendship, limits, and navigation, between the United States and the King of Spain, may receive from the said King such present as it is customary for His Catholic Majesty to make to such persons as negotiate treaties with him.

And be it further resolved, That Congress doth consent that the said Thomas Pinckney, esq., lately minister plenipotentiary from the United States to the King of Great Britain, may receive from the said King such present as it is customary for His Britannic Majesty to make to ministers plenipotentiary on taking leave of him.

(Leg. Jour., vol. 2, pp. 480, 482, 483-484.)

FORTY-SEVENTH CONGRESS, FIRST SESSION.

May 24, 1882.

[Senate Report No. 649.]

Mr. Windom, from the Committee on Foreign Relations, submitted

the following report:

The Committee on Foreign Relations, to whom was referred the joint resolution (H. R. 54) to authorize Lieut. Henry R. Lemly, United States Army, to accept a position under the Government of the United States of Colombia, have considered the same, and respectfully report:

That the facts in this case are fully set forth in the following papers; and, as the joint resolution simply permits said officer to accept the position of instructor at the military school at Bogota, and does not authorize him to accept any military rank from the Government of the United States of Colombia, the committee recommend its passage.

27

WAR DEPARTMENT, Washington City, February 20, 1882.

SIR: I have the honor to acknowledge the receipt of your communication of the 8th instant, inclosing a copy of House resolution 54, being a joint resolution to authorize Lieut. Henry R. Lemly, United States Army, to accept a position under the Government of the United States of Colombia and asking to be informed of the views of this Department as to the propriety of the legislation proposed therein.

In reply, I beg to invite attention to the inclosed report of the Adjutant-General of the Army, to whom the subject was referred, which furnishes the military history of Lieutenant Lemly, together with a full statement of the circumstances and authority under which he first accepted a professorship of civil and military engineering in the national military school at Bogota, including the facts and circumstances connected with the subsequent action of the Colombian authorities in advancing him to the position of superintendent of the academy and conferring upon him the honorary rank of colonel in the Colombian army, and the reasons which governed the action of the President in revoking the leave of absence which had been granted to Lieutenant Lemly to enable him to accept the professorship above referred to, and directing him to terminate his connection with the military school at Bogota.

It will be observed that the action of the Colombian authorities toward Lieutenant Lemly is highly complimentary, and attests, in a forcible manner, the earnest appreciation of his service by that Government; and as the zeal and ability which have gained for him so flattering a recognition by the Colombian authorities are worthy of commendation, and as he went to Bogota with the approval of the President, the passage of the above-mentioned resolution No. 54 is

recommended, with an amendment as follows:

"Provided, That the permission hereby given shall be held to terminate April 1, 1883."

Very respectfully, your obedient servant,

ROBERT T. LINCOLN, Secretary of War.

Hon. Thos. J. Henderson, Chairman Committee on Military Affairs, House of Representatives.

> ADJUTANT-GENERAL'S OFFICE, Washington, February 14, 1882.

SIR: I have the honor to return herewith the House resolution No. 54, authorizing Lieut. Henry R. Lemly, Third Artillery, to accept from the Government of the United States of Colombia "a position of instructor at the military school at Bogota," which was referred by the Committee on Military Affairs. House of Representatives, for the views of the Department as to the propriety of the legislation proposed therein, and by the Secretary of War to this office for report and previ-

ous history of the case.

Lieutenant Lemly graduated from the United States Military Academy, and was appointed second lieutenant. Third Cavalry, June 14, 1872; was transferred to the Third Artillery October 7, 1878, and promoted first lieutenant February 23, 1880. On April 21, 1880, he was, by direction of the President, granted leave of absence for three years, with permission to go beyond sea. The instructions of the President directing that Lieutenant Lemly be granted this leave are indorsed upon a letter from D. H. Starbuck, stating that "Lieut. Henry R. Lemly, of the Army, is desirous to visit South America, and has the offer of a professorship of civil and military engineering in the national military school at Bogota, which he desires to accept for a term of three years, provided he can obtain a furlough or leave of absence for that time." Upon this paper the President indorsed as follows: "April 19, 1880. Having fully considered this application, I direct that the leave asked for be allowed First Lieut. H. R. Lemly, Third Artillery, for the purpose herein expressed."

Under date of September 30, 1881, the Acting Secretary of State transmitted to the Secretary of War a copy of a dispatch from the minister of the United States at Bogota, stating that Lieutenant Lemly. "by his knowledge, tact, and devotion to duty has secured the approval of the Colombian authorities and respect of this community to such an extent as to be advanced to the position of superintendent of the academy, officially styled 'chief director of the studies of the school of civil and military engineering,' and that as a special mark of distinction this appointment has been accompanied by a decree conferring upon him the rank of colonel in

the Colombian army.

Upon these papers the Secretary of War on November 4, 1881, directed the General of the Army to cause Lieutenant Lemly to be informed that "the President. while commending Lieutenant Lemly for the earnestness and ability which he has exhibited in the performance of the duties assumed by him under the Colomhas exhibited in the performance of the duties assumed by him under the Colombian Government, directs that he be informed that a consideration of a clause of the Constitution of the United States [Par. 8, sec. 9, Art. 1] not only prevents the acceptance by Lieutenant Lemly of either of the offices named in the letter of the Secretary of War and the Navy of the United States of Colombia, but compels the revocation of the order of the President bearing date April 19, 1880, granting to Lieutenant Lemly a leave of absence for three years for the purpose of accepting a professorship 'in the national school at Bogota."

The instructions of the President and Secretary of War were communicated to Lieutenant Lemly by letter from this office dated November 17, 1881, and he was directed to terminate his connection with the military school at Bogota upon receipt of the letter, and to return to the United States as soon thereafter as

practicable.

Subsequently, however, on November 17, 1881, the President, through the Secretary of War, directed "that Lieutenant Lemly be authorized to remain at Bogota, if he so desires, on leave of absence a reasonable time, to allow application to be made on his behalf to Congress for its consent to his keeping position in national school," but that he must "immediately disconnect himself from any foreign official position and so remain until consent of Congress is obtained."

These instructions were communicated to Lieutenant Lemly by letter from this

office of November 18, 1881. Under date of January 4, 1882, Lieutenant Lemly reports receipt of the instructions of November 18, 1881, and that in obedience thereto he had disconnected himself from "any foreign official position," etc.

Very respectfully, your obedient servant,

R. C. DRUM, Adjutant-General.

The honorable SECRETARY OF WAR.

WAR DEPARTMENT, Washington City, May 5, 1882.

SIR: I have the honor to acknowledge the receipt of your letter of the 25th ultimo, inclosing a copy of joint resolution (H. R. 54) "to authorize Lieut. Henry R. Lemly, United States Army, to accept a position under the Government of the United States of Colombia," and requesting information as to the amount of pay Lieutenant Lemly is now receiving from this Government, and the amount to be paid to him by the Government of the United States of Colombia.

In reply, I beg to inclose herewith a report of the Paymaster-General, dated the 29th ultimo, giving the information asked for as to the amount of pay Lieutenant Lemly is receiving from this Government, and to inclose also a communication from the Adjutant-General, dated the 4th instant, and its accompanying papers, which include a copy of the contract between Lieutenant Lemly and the Government of the United States of Colombia, in which it is stipulated the amount of compensation to be paid to him by that Government; said copy having been made from a copy transmitted to this Department by the Department of State, under date of the 6th ultimo.

Very respectfully, your obedient servant,

ROBERT T. LINCOLN, Secretary of War.

Hon. WM. WINDOM, Chairman Committee on Foreign Relations, United States Senate,

> WAR DEPARTMENT, PAYMASTER-GENERAL'S OFFICE, Washington, April 29, 1882.

Sir: I have the honor to return herewith the letter of the Committee on Foreign Relations of the Senate of the 25th instant, with the accompanying bill and report, in reference to Lieut. Henry R. Lemly, United States Army, and to state in reply that Lieutenant Lemly is now receiving the sum of \$68.75 per month, being half pay of his grade of first lieutenant of artillery, he being on leave of absence. As long as he shall continue on leave he will be reduced to half pay.

With reference to the last inquiry in the letter of the committee, "the amount he will be paid by the Government of the United States of Columbia should the permission asked be granted," this office is not able to respond.

Very respectfully, your obedient servant,

WM. B. ROCHESTER. Paymaster-General, U.S. A.

The honorable SECRETARY OF WAR.

ADJUTANT-GENERAL'S OFFICE, May 4, 1882.

Sir: I have honor to return herewith the communication from the chairman of Senate Committee on Foreign Relations of the 25th ultimo, requesting certain information in the case of First Lieut. Henry R. Lemly, Third Artillery, in connection with a joint resolution (H. R. 54), and to inclose herewith a copy of Lieutenant Lemly's contract with the Government of the United States of Colombia

received through the State Department.

This information as to the nature of the contract and the compensation Lieutenant Lemly was to receive from the Colombian Government was not received until after the report of this office of February 14, 1882 (printed in House Report No. 483, a copy of which accompanies the letter from the Senate committee), had been made, and is the only information of record in this office touching the inquiry of the committee as to what amount Lieutenant Lemly "will be paid by the Government of the United States of Colombia should the permission asked for be granted. ed."
Very respectfully, your obedient servant,
R. C. DRUM, Adjutant-General.

The honorable SECRETARY OF WAR.

DEPARTMENT OF STATE, Washington, April 6, 1882.

SIR: I have the honor to transmit herewith, in connection with previous correspondence from your Department upon the subject, a copy of a dispatch from our minister resident at Bogota, of February 17 last, relative to the case of Lieut, H. R. Lemly, of the United States Army, who is now employed by the Government of Colombia, also a copy of Lieutenant Lemly's contract with that Government inclosed with the minister's dispatch.

I have the honor to be, sir, your obedient servant,

FREDK. T. FRELINGHUYSEN.

Hon. ROBERT T. LINCOLN, Secretary of War.

No. 10.7

LEGATION OF THE UNITED STATES, Bogota, February 17, 1882.

Sir: Inclosed copy of contract with the Colombian Government is respectfully forwarded with the view of affording the President and Congress the fullest information in the case of Lieutenant Lemly, United States Army, treated of in Depart-

ment dispatches Nos. 6 and 8.

It is my advice. The Colombian Government desires Lieutenant Lemly's services for the terms of the contract, and, taking the view he was permitted to enter into it by the highest officials of our Government at the time, claims it would be neither courteous nor proper to deprive it of his services before the expiration of the time for which it was made.

Have thought it but proper to impart this information to the Department.

I am, sir, very respectfully, your obedient servant,

GEO. MANEY, Minister Resident.

Hon. FREDK, T. FRELINGHUYSEN, Secretary of State, Washington.

Be it known by this document that we, the undersigned, J. A. Echsverria, of the city of New York, in the name and by request of Francisco J. Cisneros, of the

same city, now absent in the Republic of the United States of Colombia, party of the first part, and Henry Rowan Lemly, of Washington, D. C., party of the second part, have entered into a contract under the following conditions:

ARTICLE THE 1ST. Francisco J. Cisneros, and in his name J. A. Echsverria, do here declare: Firstly, that by the law No. 69 of 1877 of the U.S. of Colombia, it was ordered that a school of civil and military engineering should be established in the city of Bogota, capital of the Republic; secondly, that in fulfillment of said law and of the decree issued by the executive power of the Republic, dated at Bogota the 26th of November, 1879, the school of civil and military engineers must have been established the 2nd day of the present month, in the building known by the name of "Candelaria;" thirdly, that according to article 3rd of said decree, besides the director and several professors and employees, there must be at the school two foreign professors, with the salary and emolument agreed upon in their contract, to teach military science and any other one that may be recommended to them, specially staff and artillery instruction; and, fourthly, that Francisco J. Cisneros has been expressly commissioned and authorized by the executive of the Republic of Colombia to engage in the United States of America the two abovementioned professors, under the instructions received by him from the secretary of the war and navy.

ARTICLE THE 2ND. In virtue of his authorization Francisco J. Cisneros, in the

name of the Government of Colombia, does hereby engage Mr. Henry Rowan Lemly for one of the two professorships of military science in the school of civil and military engineering of Bogota, with the salary of three thousand five hundred dollars per year, payable in monthly installments of \$291.66% each, in lawful

gold or silver money.

ARTICLE THE 3RD. The salary of Mr. Henry Rowan Lemly will run from the date of his departure from New York for Savanilla and Bogota, this having to take effect with the shortest possible delay.

ARTICLE THE 4TH. Besides the above-mentioned salary the Government of Colombia will pay the passage out and all regular traveling expenses of Mr. Lemly and wife from New York to Bogota.

ARTICLE THE 5TH. This contract will be for the term of three years from the

date of the departure of Mr. Henry R. Lemly from New York.

ARTICLE THE 6TH. Mr. Henry R. Lemly ought to oblige himself to take charge of such classes as will be allotted to him, according to articles 8th, 9th, and 10th of the decree of November 26th, 1879; to give the theoretical and practical instruction required in each branch of teaching; to comply with the rules and regula-tions of the schools, and to fulfill, in a word, all and every duty of his professorship with the assiduity, steadiness, and intelligence that the Government of

Colombia expects from him.

ARTICLE THE 7TH. Mr. Henry R. Lemly, on his part, accepts the salary of three thousand and five hundred dollars per year, payable in monthly installments of equal amount, and the payment of his passage and travelling expenses from New York to Bogota that the Government of Colombia, represented by Mr. Francisco J. Cisneros, offers him to pay; acknowledges that he is instructed of articles of the decree of Nov'er 28th, 1879, alluded to in the foregoing paragraph; obliges himself to teach scientifically and practically the subjects allotted to him, specially in relation to military science; to comply with the rules and regulations enacted by proper authority for the government of the school, and, finally, to fulfill all the duties deriving from his contract during its term of three years to the best of his abilities.

ARTICLE THE 8TH. It is understood that in case Mr. Henry R. Lemly, for any cause whatever, should be called to take charge of a single class the reduction spoken of in article 18th of the decree of Nov'er 26th, 1879, will not apply to him, and his full salary will be in such case paid to him, as agreed upon in this covenant.

ARTICLE THE 9TH. This contract will be considered as provisional until the arrival of Mr. Henry R. Lemly to Bogota, when it will be ratified by the secretary of the army and navy.

Both parties, being agreed in the foregoing articles, sign two copies of the same tenor, which they reciprocally exchange in the city of New York, &c.

José A. Echsverria. Henry R. Lemly, (Signed) SEAL. (Signed) 1 Lieut. 3d U. S. Art'y, Despacho.

Witness: L. DEL MONTE. JOHN S. SLAGLE.

FORTY-EIGHTH CONGRESS, FIRST SESSION.

February 19, 1884.

[Senate Report No. 201.]

Mr. Wilson, from the Committee on Foreign Relations, submitted

the following report:

The Committee on Foreign Relations, to whom was referred the application of Augustus J. Cassard to be permitted to accept a gold medal conferred on him by the Government of France, submits the following report:

The Secretary of State, in a letter of January 19, 1884, responding

to inquiries relative to the facts in this case, says:

That for eight months prior to February, 1881, Mr. Cassard, our consul at Tampico, rendered valuable service to the French Government by taking charge of its consular archives and interests, there being during that period no French consul in that district. For this service Mr. Cassard could receive no compensation, and, therefore, the French Government desired to present a medal as a mark of its appreciation thereof.

A gold medal has been prepared by the French Government and forwarded through the proper diplomatic channels, but as it can not be delivered to or accepted by Mr. Cassard without the permission of Congress, the committee present the joint resolution accompanying this report and recommend its passage.

March 6, 1884.

[Senate Report No. 277.]

Mr. Miller, of California, from the Committee on Foreign Relations,

submitted the following report:

The British bark Lammerlaw, bound from Australia to Portland, Oreg., with a carload of coal, stranded on the North Break, at the entrance of Shoalwater Bay, Washington Territory, at about 5 o'clock on the morning of October 30, 1881. A heavy southwest gale was blowing at the time, and the sea was very rough and swept over the vessel as soon as she stranded, so that the crew were forced, for the most part, to take to the rigging to save their lives. The point at which the vessel stranded was about 9 miles from the shore. The facts, as stated in the official report of the affair to the Treasury Department, show that Albert T. Stream, keeper of the life-saving station at Shoalwater Bay, being without a crew, collected such volunteers as he could, and in the midst of the greatest perils and at the imminent risk of his life, rowed out to the vessel and rescued the entire crew, comprising some 15 persons. He was first apprised of the stranding of the bark at about 8.30 a.m. of the 30th of October, but, notwithstanding all of his efforts to secure the necessary assistance, it was not until the evening of the 31st that he succeeded in getting all of the crew off the wreck. During all of this time the storm raged without abatement, and shortly after the rescue was effected the bark sank, leaving nothing but her spars to mark the spot where she lay. The rescued seamen saved nothing but the clothing on their persons. The bark went to pieces and the cargo was entirely lost.

In recognition of the humanity and noble heroism displayed by Mr. Stream on this occasion, the British Government has tendered him a medal, and the same is now in the hands of the Secretary of State, who has recommended that the Congress shall take the necessary action to enable Mr. Stream to accept the reward which he so manfully won.

The committee therefore report herewith a bill to authorize Mr. Stream to accept this medal, and recommend its passage by the Senate.

March 26, 1884.

[Senate Report No. 392.]

Mr. Lapham, from the Committee on Foreign Relations, submitted

the following report:

The Committee on Foreign Relations, to whom was referred Senate resolution No. 43, "for the erection of a bronze equestrian statue to Simon Bolivar in the city of Washington," having considered the same, report:

That the leading reasons for such action on the part of Congress are substantially set forth in the preamble to the said resolution and meet

the approval of your committee.

In addition thereto, the Secretary of State has sent to your committee, with his approval, a letter from our minister at Caracas in which

he urgently recommends the passage of the bill.

Your committee therefore report the same back with certain amendments, together with the papers referred to, and ask that the said committee be discharged, and that the same be referred to the Committee on the Library for final action.

FORTY-EIGHTH CONGRESS, SECOND SESSION.

December 17, 1884.

[Senate Report No. 915.]

Mr. Miller, of California, from the Committee on Foreign Relations,

submitted the following report:

The Committee on Foreign Relations, to whom was referred Senate bill 817, "to permit Henry Vignaud, of Louisiana, second secretary of the legation of the United States at Paris, to receive the decoration of the Legion of Honor of France," having considered the same, beg leave to report it back to the Senate with a recommendation that it do pass.

Mr. Vignaud, a citizen of the United States, born in Louisiana, has lived for many years in Paris, where he has been the most conspicuous contributor to the Mémorial Diplomatique, a well-known journal published in that city, and devoted to the discussion of questions of diplomacy and international law. He was appointed by the French Government on the 14th of August, 1874, to the Legion of Honor. This compliment was paid him, as was set forth in the decree of appointment, in appreciation of services rendered as a publicist. Subsequently, viz, on the 14th of December, 1875, Mr. Vignaud was commissioned second secretary of the legation of the United States at

Paris. On the 10th of August, 1881, Mr. Vignaud was made an officer of the Legion of Honor. This was a promotion falling to him in the regular order of things. The reason given for his original appointment was again alleged in the order decreeing his promotion; his services as a publicist were again recognized. As Mr. Vignaud is now in the diplomatic service of the United States, an act of Congress is necessary to enable him to accept the natural sequence of a distinction conferred upon him before he became an officer of the Government.

February 12, 1885.

[Senate Report No. 1236.]

Mr. Miller, of California, from the Committee on Foreign Relations,

submitted the following report:

The Committee on Foreign Relations beg leave to report a bill "to permit Thomas O. Osborn, minister resident and consul-general of the United States at Buenos Ayres, to receive a symbolic shield from the Argentine Republic," and to recommend its passage, submitting in this connection the following letter from the Secretary of State, viz:

> DEPARTMENT OF STATE, Washington, February 5, 1885.

SIR: In a note of the 19th of December, 1883, from the Argentine minister of state to Mr. Thomas O. Osborn, minister of the United States at Buenos Ayres, complimentary reference is made to the then recent services of Mr. Osborn 1endeted in the settlement of a boundary question between that Republic and Chile; and he is requested to accept, in commemoration thereof, a "symbolic shield,

properly engraved.

I have now the honor to ask that your committee will introduce a measure enabling Mr. Osborn to accept the proposed gift, which he has, of course, thus far

declined to receive.

I have addressed a like request to the corresponding committee of the House. I have the honor to be, sir, your obedient servant,

FRED'K T. FRELINGHUYSEN.

Hon. John F. Miller, etc., Committee on Foreign Relations, Senate.

February 12, 1885.

[Senate Report No. 1237.]

Mr. Miller, of California, from the Committee on Foreign Rela-

tions, submitted the following report:

The Committee on Foreign Relations, to whom was referred the message of the President "in relation to the steamship Alert," having considered the same, beg leave to report herewith and recommend the passage of a "joint resolution to authorize the return to Her Britannic Majesty's Government of the Arctic relief steamer Alert."

In this connection the committee also submit the following letter

from the Secretary of the Navy:

NAVY DEPARTMENT, Washington, February 9, 1885.

SIR: I have the honor to acknowledge the receipt of your letter of the 4th instant, wherein you make certain inquiries relating to the present condition of the Arctic relief steamer Alert, and request this Department to prepare a draft of such a measure as Congress should pass in order that effect may be given to the opinions expressed by the President, in his message of the 30th ultimo, recommending the return of the Alert to Her Britannic Majesty's Government.

In reply I have to inform you that, upon her arrival in this country, the Alert was repaired and thoroughly fitted for her expected work by this Department, at an expense of about \$60,000. After her return she was laid up in ordinary at the navy-yard, New York, where she now is. She is in excellent condition, and no appropriation will be needed to enable her to be returned to Great Britain.

Inclosed herewith is a draft of a joint resolution, such as you desire. For the further information of the committee, I also inclose a copy of a letter relating to the subject of the final disposition of the Alert which was addressed by this Department, on the 23d ultimo, to Hon. C. A. Boutelle, chairman sub-committee on Naval Affairs, House of Representatives.

Very respectfully,

WM. E. CHANDLER, Secretary of the Navy.

Hon. JOHN F. MILLER, Chairman Committee on Foreign Relations, United States Senate.

February 12, 1885.

[Senate Report No. 1245.]

Mr. Miller, of California, from the Committee on Foreign Rela-

tions, submitted the following report:

The Committee on Foreign Relations, to whom was referred the "message from the President of the United States, transmitting communication from the Secretary of the Navy relative to the services extended in Russia to the survivors of the steamer Jeannette expedition," having considered the same, beg leave to report an "amendment intended to be proposed to the sundry civil appropriation bill" to enable the President to carry out the recommendations made in the said message.

The committee are of the opinion that the amount of the expendi-

tures involved will not exceed \$15,000.

The message of the President referred to, and the accompanying letters from the Secretary of the Navy, are submitted as explanatory hereof.

[Senate Ex. Doc. No. 48, Forty-eighth Congress, second session.]

[Message from the President of the United States, transmitting communication from the Secretary of the Navy relative to the services extended in Russia to the survivors of the steamer Jeannette expedition.]

EXECUTIVE MANSION, January 27, 1885.

To the Senate and House of Representatives:

I have the honor to transmit communications from the Secretary of the Navy recommending certain action by the Government in recognition of the services, official and personal, extended in Russia to the survivors of the Arctic exploring steamer Jeannette and to the search parties subsequently sent to Siberia.

The authority of Congress is requested for extending the specific rewards mentioned in the paper accompanying one of the communications of the Secretary. The suggestion concerning the thanks of Congress is also submitted for consider-

ation.

CHESTER A. ARTHUR.

NAVY DEPARTMENT, Washington, January 10, 1885.

SIR: In view of the great services and the sympathy extended in Russia to the survivors of the Arctic exploring steamer Jeannette, and to the search parties subsequently sent to Siberia, it seems fitting that the Congress of the United States should tender to the Government and people of Russia an official expres-

sion of its thanks; and, further, that those officials and inhabitants of Siberia who directly and materially aided the surviving officers and men of the Jeannette and the officers of the search parties should receive such additional evidences of the appreciation of this Government as may be appropriate.

I have, therefore, the honor to recommend that the thanks of Congress be ten-

dered to the Government and people of Russia; that the persons designated in the paper accompanying this communication be given the specific rewards set opposite their names, and that Congress be requested to make such special appropriation as may be necessary to carry these recommendations into effect.

I have the honor to be, sir, very respectfully,

WM. E. CHANDLER, Secretary of the Navy.

The PRESIDENT.

RECOGNITION OF SERVICES EXTENDED BY RUSSIAN OFFICIALS AND OTHERS TO THE SURVIVORS OF THE ARCTIC EXPLORING STEAMER JEANNETTE AND TO THE OFFICERS OF THE SEARCH PARTIES.

SPECIAL REWARDS.

Officials.

Maj. Gen. George Tchernaieff, governor of Yakutsk, Russian Siberia: Sword, and letter from the President of the United States.

Ispravnick Kasharoffski, Gold watch and silver medal.

Ispravnick Ipatieff, Cossack-Subaltern Baieshoff: Silver medal, sporting rifle, and a gratuity of \$200.

Cossack-Subaltern Kalinkin: Silver medal and a gratuity of \$200.

Cossack Ivan Bozhedomoff: A gratuity of \$100.

Inhabitants of Irkutsk.

Mr. Stepanoff: Gold watch.

Mr. A. A. Thornan: Gratuity of \$300.

Mr. Charles Lee: Gold watch.

Constantin Bobokoff: Silver medal. Jaokin Grombeck: Silver medal.

Natives of the district of Yakutsk.

Vassili Bobrowsky: Large silver medal and \$500.

Ivan Androsoff: Medium silver medal.

Constantin Mohoploff: Medium silver medal.

Peter Arrara: Medium silver medal. Slipsof Verbenie: Medium silver medal. Alexei Atkasoff: Medium silver medal.

Nicolai Diakonoff: Medium silver medal.

Michael: Small silver medal.

Abanashi Bobrowsky: Small silver medal. Maxim Stepenoff: Small silver medal.

Toros Savin: Small silver medal. Korani: Small silver medal.

And, to each of these. 1 small-bore muzzle-loading sporting rifle, 500 rounds of ammunition. 1,000 percussion caps, powder flask, bullet pouch, bullet mold, cleaner, nipper, fine ax, waist belt, sheath knife, flint and steel, 2 pairs scissors, 100 glover's needles, 5 pounds of white and 5 pounds black linen thread, 20 yards navy flannel, 20 yards calico, 5 pounds tea, 10 pounds tobacco, and 5 pounds horsehair for nets.

Criminal exiles in district of Yakutsk.

Kusma Eremioff (Russian): Two hundred and fifty dollars.

Yafim Kopoloff (Russian): One hundred dollars. Feodore Serroroff (Yakut): One hundred dollars.

For general distribution among the natives of the villages of Kitach, Zemovialach, and Arrui, a quantity of tea, tobacco, beads, flannel, calico, thread, needles, glover's needles, lead, and horsehair for nets, to be distributed by the headmen, and excluding those Yakuti specifically rewarded as above. The quantity should be ample for about 300 people, which is the estimated number that should benefit by this bounty.

NAVY DEPARTMENT. Washington, January 10, 1885.

Sir: As it seems fitting that the important and valuable services, official and personal, extended in Russia to the survivors of the Arctic exploring steamer Jeannette and to the search parties subsequently sent to Siberia should receive appropriate official recognition, I have the honor to recommend that your thanks be tendered the following-named persons, all of whom, as specifically set forth in the reports made to this Department, materially aided the surviving officers and men of the Jeannette and the officers of the search parties:

Governor-general, Lieutenant-General Anuchin (Irkutsk). Governor-general, Lieutenant General Kalpokoffsky (Omsk).

Governor, Major-General Tchernaieff (Yakutsk). Governor, Major-General Nassovich (Irkutsk). Governor, Conseiller d'Etat Mertsalof (Tomsk).

Governor of Petropaulovsk.

Gen. Peter Civer (Irkutsk). Consul of France, M. Edmund de Lagreué (Moscow). Medical Director R. Kapello (Yakutsk).

Count Emil Ahlfeldt Laurwigen (St. Petersburg).

As valuable services were also extended by Dr. R. Byelie and Mr. E. Leon, political exiles in Siberia, to the officers and men referred to, I shall, with your approval, tender them the thanks of this Department.

I have the honor to be, sir, very respectfully.

WM. E. CHANDLER, Secretary of the Navy.

The PRESIDENT.

FORTY-NINTH CONGRESS, FIRST SESSION.

January 13, 1886.

[Senate Report No. 35.]

Mr. Payne, from the Committee on Foreign Relations, submitted

the following report:

The Committee on Foreign Relations, to whom was referred the letter of the Secretary of State of December 17, 1885 (Senate Ex. Doc. No. 11), recommending the passage of an act to permit Joseph Rawicz, United States consul at Warsaw, Russia, to accept decorations from Russia, have the honor to submit herewith a bill for the purpose men-

tioned, with recommendation that it do pass.

The committee find that for many years Mr. Rawicz has discharged the duties of United States consul at Warsaw without receiving any compensation therefor; that the Russian Government has tendered him certain decorations for services rendered his own country (he being a Russian subject), which, as he holds an office of trust under the United States, he is not at liberty to accept without the consent of Congress specifically given, while, as a subject of Russia, he can not decline them. The committee are of the opinion that, in view of all the circumstances, Congress may very properly accede to the request of Mr. Rawicz that he may be permitted to accept the honors referred to.

The letter of the Secretary of State referred to is submitted herewith, and made a part of this report.

[Senate Ex. Doc. No. 11, Forty-ninth Congress, first session.]

[Letter from the Secretary of State, recommending the passage of an act to permit the United States consul at Warsaw, Russia, to accept decorations from Russia.]

DEPARTMENT OF STATE, Washington, December 17, 1885.

Sir: I have the honor to send you inclosed extracts from dispatches Nos. 115 and 119 from Mr. Joseph Rawicz, consul of the United States at Warsaw, Russia. relating to certain decorations that have been conferred upon him by the Russian Government.

In accordance with Mr. Rawicz's request I respectfully recommend that a bill be passed granting him permission to accept said decorations. It is proper to add that the office held by Mr. Rawicz is compensated by fees, the amount of which is very insignificant, and that he is a Russian subject.

I have the honor to be, sir, your obedient servant,

T. F. BAYARD.

Hon. JOHN SHERMAN, President of the Senate pro tempore.

No. 115.]

CONSULATE OF THE UNITED STATES, Warsaw, June 5, 1885.

SIR: I have the honor to acknowledge the receipt of the State Department's two copies of the monthly consular reports Nos. 47 and 48, one circular of April 9, and one dispatch, No. 61, of April 22 last.

In reply to the latter I have the honor to state that, having been decorated by the Russian and French Governments, viz:

March 24, 1875, with the order of St. Stanislaus, third class, for my services of

twenty years as judge of the commercial court;

May 25, 1877, with the order of St. Anna, third class, as member of the committee of Philadelphia Exhibition, held in 1876;

October 30, 1878, with the Red Cross;

September 25, 1880, with the French Cross of the Legion of Honor for the Paris

Exhibition of 1878;

May 15 and June 25, 1883, with two orders of St. Stanislaus, second class, for my services as member of the committee of the Warsaw Commercial School; and finally,

February 28, 1885, with the order of St. Anna, second class, as curator of the

Warsaw Lunatic Asylum, for ten years' services.

I am, sir, your obedient servant,

JOSEPH RAWICZ, United States Consul.

Hon. WILLIAM HUNTER.

Second Assistant Secretary of State, Washington, D. C.

No. 119.]

CONSULATE OF THE UNITED STATES, Warsaw, October 1, 1885.

SIR: * * * I have the honor to acknowledge the receipt of dispatch No. 63, of July 15 last. In reply to the latter I have the honor to inform you that, being at the head of the oldest local lanking house, existing since 1769, I am frequently called to hold various Government and private honorary offices, as a president or member of committees.

This prominent position always enables me to decisively act in the behalf of this consulate, and this influential position becomes the more desirable as this consulate is the only one not being general, and the latter circumstance greatly influences upon the official classification of foreign consuls in this country. Owing, however, to my personal position, I am enabled in some measure to keep myself upon the level with the rights due to my colleagues the consuls-general.

Many a time I requested the State Department for changing this consulate into

a general one, never requiring any special pecuniary compensation or privilege, as I wanted only the title indispensable for the intercourse with the local authorities. Not wishing to be behind all other local consuls, I requested long ago for this title the Department of State by the mediation of some of the United States ministers passing through Warsaw to St. Petersburg, but I regret to say their mediation, as well as their representations made the State Department, remained till now entirely unconsidered.

The reason why the other European powers are represented here by the consuls-

general is that Warsaw was once the capital of the Kingdom of Poland.

As the subject of this country I can not decline the acceptance of the Russian decorations, and therefore I repectfully beg you to pass the necessary formalities through the Congress relative to the orders already received by me.

I am, sir, your obedient servant,

JOSEPH RAWICZ, United States Consul.

Hon. WILLIAM HUNTER, Second Assistant Secretary of State, Washington, D. C.

January 29, 1886.

[Senate Report No. 68.]

Mr. Edmunds, from the Committee on Foreign Relations, submitted

the following report:

The Committee on Foreign Relations, having had under consideration a letter addressed by the Secretary of State, under date of January 8, 1885 [1886], to the committee, transmitting copy of a letter from the Secretary of War, addressed to the Secretary of State, under date of December 29, 1885, and copy of a letter addressed to the Secretary of State by Gen. O. O. Howard, United States Army, under date of 16th November, 1885, requesting the consent of Congress to General Howard receiving from the French Republic a decoration of the Legion of Honor and the brevet appointment and honorary rank of Chevalier, respectfully report that they have had the matter under consideration.

It appears from the letter of General Howard that in the year 1884, he, being in France, attended the fall maneuvers of the Seventeenth Corps d'Armée as representing the United States; in what precise capacity, however, does not appear from the papers; and that this decoration and title was tendered him by the French Government, in

appreciation of services rendered his own country.

It does not appear from the letters of the Secretaries of War and State that they recommend that such an act of Congress be passed; but whatever may be their views upon the subject, the committee is of opinion that the legislation asked for ought not to be enacted. It has been the custom hitherto, and, as the committee thinks, somewhat too frequent and extended, for Congress to authorize officers of the United States to receive gifts and decorations from foreign Governments for some distinguished and peculiar service that such officer may have rendered to such foreign government, its citizens, or subjects; but the committee is of opinion that it would be contrary to the spirit of our republican institutions that any of the officers of the United States should receive decorations or titles from foreign governments as tokens of their appreciation of the services of such officers in their own country, which is supposed to be capable of measuring for itself and suitably rewarding the services of its own citizens.

The papers referred to are hereto appended.

DEPARTMENT OF STATE, Washington, January 8, 1885.

Sir: With reference to section 3 of the act of Congress approved January 31, 1881, entitled "An act authorizing the persons therein named to accept certain decorations and presents therein named, and for other purposes," I have the honor to transmit to you herewith for your consideration a copy of a letter to this Department from my colleague, the Secretary of War, asking that the proper steps may be taken for the passage of an act of Congress permitting Gen. O. O. Howard, United States Army, to accept the decoration of the Legion of Honor which has been tendered to him by the Government of France.

I have the honor to be, sir, your obedient servant,

T. F. BAYARD.

JOHN F. MILLER, Chairman of the Committee on Foreign Relations, Senate.

HEADQUARTERS DEPARTMENT OF THE PLATTE, Omaha, Nebr., November 16, 1885.

Siz: By date of November 18, 1884, I requested the Hon. Levi P. Morton, United States minister to France, to forward through your Department to Congress the tender of the decoration of the Legion of Honor.

Afterwards I inclosed him the brevet and badge given me at the time I was in

Paris.

It will require an act of Congress for me to accept the brevet and badge. It, the decoration, was tendered to me by the French Government for services rendered to my own country. The honorary rank was that of "Chevalier," and I regarded the tender as conferring upon me and my country, which I represented at the fall maneuvers of the Seventeenth Corps d'Armée of France, special honor.

Will you kindly forward my wishes by the usual method of carrying out the law

when such a gift is tendered to a citizen of the United States?

Please write me if the brevet and badge have been received at the State Department, or if there is anything further for me to do in the premises.

I am, sir, very respectfully, your obedient servant,

O. O. HOWARD, Brigadier-General, United States Army.

Hon. THOMAS F. BAYARD, Secretary of State, Washington, D. C. (Through the Hon. Secretary of War.)

> WAR DEPARTMENT, Washington City, December 29, 1885.

Sir: I have the honor to acknowledge the receipt of your communication of the 23d ultimo, containing a copy of a communication received by you direct from Gen. O. O. Howard, United States Army, requesting that the proper measures be taken by your Department for the passage of an act of Congress permitting him to accept the decoration of the Legion of Honor conferred upon him by the Government of France.

In accordance with the suggestion contained in your letter, General Howard was advised that, as an officer of the Army, he should address a coordinate Department of the Government through the Secretary of War, and I have now the honor to transmit herewith General Howard's official communication to you through this Department, asking that the proper steps be taken for the passage of the act of Congress permitting him to accept the decoration in question.

Very respectfully, your obedient servant,

WM. C. ENDICOTT, Secretary of War.

February 18, 1886.

[Senate Report No. 131.]

Mr. Sherman, from the Committee on Foreign Relations, submitted

the following report:

The Committee on Foreign Relations beg leave to report herewith Senate bill 1568, recommending its passage, to authorize Commander John W. Philip, United States Navy, to accept a silver pitcher tendered him by the Government of the United States of Colombia.

A reference to the letters and documents of the Secretaries of the State and Navy Departments, presented herewith, will show that, on the request of the Colombian Government, Commander Philip was detailed, on the 10th of January, 1884, to inspect a revenue cutter built for that government at Wilmington, Del., and that Commander Philip rendered that service to the satisfaction of that Government, which, in token of its appreciation of the manner in which the duty was performed, tendered to him the silver pitcher referred to. The committee are of the opinion that, under the circumstances, the consent of Congress may very properly be given to the acceptance of the gift by Commander Philip.

DEPARTMENT OF STATE, Washington, January 12, 1886.

SIR: I have the honor, at the instance of the Colombian minister here, and with the approval of the Secretary of the Navy, to ask that Congressional action may be taken to enable Commander John W. Philip, United States Navy, to accept a silver pitcher from the Colombian Government in recognition of his service in inspecting, in 1884, the revenue cutter Boyacca for that Government.

I have the honor to be, sir, your obedient servant,

T. F. BAYARD.

The Hon. John F. Miller, Etc., Committee on Foreign Relations, Senate.

> NAVY DEPARTMENT, Washington, January 30, 1886.

SIR: I have the honor to acknowledge the receipt of your letter of the 28th instant, and beg to inclose herewith a copy of the Department's order, dated December 10, 1883, to Commander John W. Philip, United States Navy, directing him to proceed to Wilmington, Del., and inspect the revenue cutter Boyaca, built by the Pusey & Jones Company, of that city, for the Colombian Government, together with copies of all other papers bearing upon the subject on file in this Department.

I have the honor to be, sir, your obedient servant,

W. C. WHITNEY, Secretary of the Navy.

Hon. John Sherman, Acting Chairman Senate Committee on Foreign Relations.

DEPARTMENT OF STATE, Washington, November 5, 1883.

Sir: I have the honor to bring to your consideration the inclosed copy of a dispatch from the minister of the United States at Bogota, of September 30 last, preferring the request of the Colombian Government that a naval officer of the

United States be detailed to inspect a revenue cutter now being built at Wilmington, Del., for Colombia, before its final acceptance by the Government. I transmit at the same time a paper containing the contract for the construction of the vessel in question, and will thank you to return the same for our files when you will have made such use of the paper as your Department thinks advisable.

I have the honor to be, sir, your obedient servant,

W. Hunter, Acting Secretary.

Hon. WILLIAM E. CHANDLER, Secretary of the Navy,

No. 112.]

United States Legation, Bogota, September 30, 1883.

Sir: I beg to inclose herewith a copy and translation of a note which I have received from the Colombian minister for foreign affairs, dated the 25th instant, and to earnestly express the hope that the request therein made may be granted by the Navy Department. I inclose also the copy of the Diario Oficial referred to in the minister's note, and likewise a copy of my note to him, dated the 26th instant.

I have the honor to be, sir, your obedient servant,

WILLIAM L. SCRUGGS.

Hon. Fred'k T. Frelinghuysen, Secretary of State, Washington, D. C.

[Inclosure 2 in No. 112.—Translation.]

BOGOTA, September 25, 1883.

Sir: The executive power has arranged, through the home department, that the coasting vessel, contracted for in the name of the Colombian Government, by Señor Miquel Camacho Roldan, of New York, with Messrs, Pusey, Jones & Co., of Wilmington, Del., be received under the inspection and report of a naval officer of the United States, in order that by this means there may be nothing wanting in the fulfillment of the contract, and that the vessel should satisfy the needs of the public service for which it is destined.

To this end the executive power hopes that the Government of the United States will kindly lend the aid of one of its naval officers for the purpose indicated, and, in order to obtain this courtesy, I direct this note to your excellency, accompanied by the number of the Diario Oficial in which the contract is published.

I beg that your excellency be pleased to communicate the contents of this note to the Department of State at Washington, for the information and consideration of His Excellency the President of the United States of America, and also, should this request be granted, to have communicated at the same time to Señor Miquel Camacho Roldan, in New York, the name of the naval officer that may be designated, and the date on which the examination of the vessel can take place.

In the name of the national executive, I present for transmission to your excellency's Government his expressions of the most sincere thanks, and for yourself the assurances of my most distinguished consideration.

I remain, your excellency's very attentive servant,

ANTONIO ROLDAN.

To his excellency WILLIAM L. SCRUGGS, Minister Resident of the United States of America.

[Inclosure 3 in No. 112.]

United States Legation, Bogota, September 26, 1883.

Mr. Secretary: I have had the honor to receive your excellency's polite note of yesterday (and also the number of the Diario Oficial to which it refers) relative to the revenue cutter now being built in the United States for and on account of the Colombian Government. It shall be my care to transmit the same to my Gov-

ernment by the mail of the 30th instant, and I doubt not that the request therein so courteously made will be most cheerfully granted by the President.

With renewed assurances of my most distinguished consideration, I have the

honor to remain your excellency's most obedient servant,

WILLIAM L. SCRUGGS.

To his excellency Dr. Antonio Roldan, Secretary for Foreign Affairs of the United States of Colombia.

> NAVY DEPARTMENT, Washington, November 14, 1883.

SIR: I have the honor to acknowledge the receipt of your letter of the 5th instant, bringing to my attention the request of the Colombian Government that an officer of the Navy be detailed to inspect a revenue cutter being built at Wilmington. Del., for Colombia, and inclosing a copy of a dispatch from the minister of the United States at Bogota, together with a copy of the Diario Oficial of Bogota, in which the contract is published.

In reply I have pleasure in informing you that this Department will detail an officer to inspect the steamer being built for the Co'ombian Government by the Pusey & Jones Company, with instructions to carefully examine and report whether or not the specifications of the contract have been complied with.

The officer selected will be ordered to proceed with the inspection when this Department is informed that the vessel is ready. The copy of the Diario Oficial will be returned to the Department of State as soon as the report shall have been completed.

I am, sir, your obedient servant,

ED. T. NICHOLS, Acting Secretary of the Navy.

Hon. Frederick T. Frelinghuysen, Secretary of State.

> DEPARTMENT OF STATE, Washington, November 20, 1883.

SIR: I have the honor to transmit herewith, in connection with my letter to you of the 16th instant, the inclosed copy of one addressed to me by Mr. Roldan, of the 17th instant, relative to the revenue cutter now building at Wilmington, Del., for the Colombian Government, and whose inspection by a naval officer of the United States is desired by that Republic.

I have the honor to be, sir, your obedient servant,

FRED'K T. FRELINGHUYSEN.

Hon. WM. E. CHANDLER, Secretary of the Navy.

[Inclosure.]

NEW YORK, November 17, 1883.

SIR: I have the honor to acknowledge the receipt of your esteemed favor of the 16th instant, relative to the inspection of the revenue cutter now building for the Government of the United States of Colombia, by an officer of the Navy of the United States, and in reply thereto beg to say that I am at present unable to name the precise date on which she will be in readiness, but will at once communicate with the builders, and upon receipt of their reply will advise your Department of the date on which she will be completed and ready for inspection.

I am, sir, yours, very respectfully,

M. CAMACHO ROLDAN.

Hon. Frederick T. Frelinghuysen, Secretary of State, Washington, D. C.

D.

DEPARTMENT OF STATE, Washington, January 7, 1884.

SIR: I have now the honor to apprise you, in connection with the Department's communication to you of November 16 last, of the receipt of a letter of the 4th instant (a copy of which is herewith inclosed) from Mr. M. Camacho Roldan,

stating that the revenue steamer built at the yard of the Pusey & Jones Com pany. Wilmington, Del., for the United States of Colombia, is now ready for and awaiting inspection, as desired by that Government, by an officer of the United States Navy, before the formal acceptance of the steamer by Colombia.

I have the honor to be, sir, your obedient servant,

JOHN DAVIS. Acting Secretary.

Hon. WILLIAM E. CHANDLER, Secretary of the Navy.

NEW YORK, January 4, 1884.

Sir: I beg to refer to your esteemed favor of November 17th ultimo, also to my reply thereto of the following day's date, and to advise you that the revenue steamer built at the yard of the Pusey & Jones Company, Wilmington, Del., for the Government of the United States of Colombia, is now ready for and awaiting inspection by an officer of the United States Navy detailed for that purpose by request of the said Government of the United States of Colombia made through your Department.

I have the honor to be, sir, your obedient servant,

M. CAMACHO ROLDAN, Per J. N. VAN SICKEL.

Hon, FREDERICK T, FRELINGHUYSEN, Secretary of State, Washington, D. C.

> NAVY DEPARTMENT, Washington, D. C., January 10, 1884.

SIR: Application having been made by the Government of the United States of Colombia that a steam revenue cutter built by the Pusey & Jones ('ompany, of Wilmington, Del., may be inspected by a United States naval officer for the purpose of determining whether the specifications and the contract between the company and the Government have been carried out, and whether the vessel is likely to fulfill the conditions required of her as a revenue cutter, you have been selected for that duty.

The Department having been notified that the steamer has been completed and is now awaiting inspection by an officer of the United States Navy, you will prodelay to New York and put yourself in communication with Senor M. Camacho Roldan, 87 Wall street (P. O. box 1609), and arrange with him the

time for making the necessary steam trials and examinations

From New York you will proceed to Wilmington, Del., and having acquainted the Pusey & Jones Company with the tenor of your instructions, and having received authority from them, make careful examinations of the steam vessel built under contract with the Government of the United States of Colombia, a copy of which is contained in the Diario Oficial, published in Bogota May 19, 1883, herewith inclosed.

After having thoroughly examined the above-mentioned steamer, under way and at the dock, you will report to this Department whether or not the steamer fulfills the terms of the specifications and contract, and whether or not the vessel is likely

to prove efficient in the service for which she is intended. Should you find that the terms of the contract have not been carried out, you will so inform the Department, stating wherein the specifications have not been complied with.

Be pleased to return to the Department the inclosed copy of the Diario Oficial

when you shall have finished the examination of the steamer.

Upon the completion of this duty return to your home and await orders. This employment on shore duty is required by the public interests, and such service will continue until February 10, 1884, unless it is otherwise ordered.

Very respectfully,

W. E. CHANDLER. Secretary of the Navy.

Commander J. W. PHILIP, U. S. N., Washington, D. C.

NAVY DEPARTMENT. Washington, January 17, 1884.

SIR: I have the honor to inclose herewith, in connection with your letter of the 7th instant, notifying this Department "that the revenue steamer built at the yard of the Pusey & Jones Company, Wilmington, Del., for the United States of Colombia, is now ready for and awaiting inspection," a copy of an order to Commander J. W. Philip, U. S. N., and a copy of his report upon the inspection of the steamer *Boyaca*, built by the Pusey & Jones Company, Wilmington, Del., for the Government of the United States of Colombia. I also inclose, as requested in your letter of the 5th November last, the copy of the Diario Oficial, published in Bogota, forwarded therewith.

Very respectfully, your obedient servant,

WM. E. CHANDLER. - Secretary of the Navy.

Hon. FREDERICK T. FRELINGHUYSEN, Secretary of State.

NEW YORK, January 16, 1884.

SIR: In obedience to your order of January 10 I have carefully examined the steamer Boyaca, built by the Pusey & Jones Company, of Wilmington, Del., for the Government of the United States of Colombia, and respectfully submit the following

report:
The steamer was in the water, coaled and provisioned, and about ready for her sea voyage, consequently I could not make that examination of her under-water portion—viz, stem, sternpost, rudderpost, rudder, sheathing, etc.—that the specifications called for, but all parts of the vessel attainable were carefully examined and measured and found to be in strict accordance with the specifications and very neatly and well constructed.

Owing to ice in river and creek, it was impracticable to get the vessel under way, Señor Rolden agreeing with me that it would be best to dispense with that part of

the examination.
A "dock trial" was had, when the engines ran very smoothly, noiselessly, and with but little vibration, thus showing evidences of careful construction from good material with promises of giving entire satisfaction. In examining and measuring about the vessel, if discrepancies exist they are in favor of the steamer—for instance, both anchors and chains are larger and heavier than the specifications call for, and the boats are lifeboats instead of the ordinary yard-built cutters.

On questioning the captain and chief engineer, they told me that, so far as they

were able to judge, the best of material had been used in the construction of the hull and engines and that the company (Pusey & Jones) had been most liberal in the supply of stores and supplies, both in regard to quantity and quality.

After the above examinations I am able to report that the steamer Boyaca fulfills the terms of the specifications and contract, and I am of the opinion that she will prove most efficient in the service for which she is intended.

I return herewith the copy of the Diario Oficial.

Hoping my report will meet with the approval of the Department, I remain, sir, very respectfully,

JNO. W. PHILIP Commander, United States Navy.

Hon. W. E. CHANDLER, Secretary of the Navy.

March 3, 1886.

[Senate Report No. 186.]

Mr. Brown, from the Committee on Foreign Relations, submitted the following report:

In the matter of the medal tendered by the Chilean Government to Capt. D. W. Mullan, of the United States Navy, your committee submit the following report:

During the late war between the Governments of Chile and Peru

Captain Mullan, then a lieutenant in the United States Navy off the coast of Chile, was sent by Commander J. A. Howell, of the Navy, then in command of the U. S. S. Adams, to visit the headquarters of the Chilean army and request that he be permitted to accompany the staff of the Army during the operations near Lima. The request was granted by the Chilean Government, and Lieutenant Mullan observed the operations of the Chilean army during two or three important battles.

On the 14th of October, 1885, the minister of war of the Chilean Government addressed a letter to W. R. Roberts, then representing the United States Government near the Government of Chile, conveying to him a medal for Captain Mullan, which the minister of war says is intended in the character of simply a memento, and not as a

military recompense, etc.

From the whole case it appears that Captain Mullan was detailed by authority of our own Government to visit and remain for the time at the headquarters of the Chilean army to observe its military operations. In that capacity he had no right to render any service to the Chilean Government or to take any part whatever in the military operations then being conducted. He was simply there, by the courtesy of that Government, to observe its military operations. It is not pretended that he rendered any service to the Chilean Government or that he did anything to the detriment of the Peruvian Government, and it seems that the medal is intended simply as a memento of what he saw at the battles which were fought while he was at the headquarters of the Chilean army.

While your committee are of the opinion that Congress should authorize the acceptance by American officers of medals or decorations or other presents, where they were in condition properly to render and did render important services to a foreign government, or perform acts of gallantry or humanity which in the opinion of the foreign government entitled them to marked consideration, your committee think that this practice is carried too far, and that Congress should not as a matter of course, without regard to the merits of the case, pass an act authorizing every officer of the United States to whom a decoration or medal may be tendered by a foreign government

to accept.

In this case your committee do not see from an examination of the papers that any important service was rendered to the Chilean Government or any act of humanity performed which would entitle Captain Mullan to any special consideration at the hands of the Government of Chile. They are therefore of the opinion that no act of Congress should be passed authorizing the acceptance of the medal

above referred to.

March 3, 1886.

[Senate Report No. 187.]

Mr. Brown, from the Committee on Foreign Relations, submitted

the following report:

This is an application made to the State Department by Mr. E. J. Smithers, chargé d'affaires ad interim at Perkin, informing the State Department that Li Hung Chang, viceroy of China, has informed him that His Imperial Majesty the Emperor of China has conferred upon

Lieut. D. Pratt Mannix, of the United States Marine Corps, the decoration of the third class of the Double Dragon, on account of distinguished services rendered by him to China as torpedo instructor. The viceroy states that he displayed the utmost ability, and that all the soldiers under his tuition have become proficient, which has been a

service of great satisfaction to the viceroy.

As this was a service rendered the Emperor of China by a citizen of the United States, which was eminently satisfactory to His Majesty, and as the Secretary of State of the United States joins in the recommendation that he be permitted to accept the decoration tendered by the Emperor, your committee report the accompanying joint resolution and recommend that it do pass.

March 17, 1886.

[Senate Report No. 237.]

Mr. Frye, from the Committee on Foreign Relations, submitted the

following report:

The Committee on Foreign Relations, to whom was referred the application of Augustus J. Cassard to be permitted to accept a gold medal conferred on him by the Government of France, submit the

following report:

An examination of the facts in this case, as appears from the communications of the Secretary of State, shows that for eight months prior to February, 1881, Mr. Cassard, our consul at Tampico, rendered valuable services to the French Government by taking charge of its consular archives and interests, there being during that period no French consul in that district. For this service Mr. Cassard could receive no compensation, and therefore the French Government desired to present a medal as a mark of its appreciation therefor. A gold medal has been prepared by the French Government and forwarded through the proper diplomatic channels, but as it can not be delivered to or accepted by Mr. Cassard without the permission of Congress, your committee present the joint resolution accompanying this report and recommend its passage.

June 5, 1886.

[Senate Report No. 1280.]

Mr. Sherman, from the Committee on Foreign Relations, submitted

the following report:

The Committee on Foreign Relations, to whom was referred the message of the President relating to the acceptance and inauguration of the colossal statue of Liberty Enlightening the World, having considered the same, beg leave to report herewith an amendment intended to be proposed to the bill making appropriations for sundry civil expenses of the Government, providing for an appropriation of \$106,100, to be used as recommended in the message of the President cited, which they ask may be referred to the Committee on Appropriations, with accompanying documents.

[Message from the President of the United States, relating to the acceptance and inauguration of the colossal statue of Liberty Enlightening the World.]

To the Senate and House of Representatives:

By a joint resolution of Congress approved March 3, 1877, the President was authorized and directed to accept the colossal statue of Liberty Enlightening the World when presented by the citizens of the French Republic, and to designate and set apart for the erection thereof a suitable site upon either Governors or Bedloes Island, in the harbor of New York, and upon the completion thereof to cause the statue "to be inaugurated with such ceremonies as will serve to testify the gratitude of our people for this expressive and felicitous memorial of the sympathy of the citizens of our sister Republic."

The President was further thereby "authorized to cause suitable regulations to be made for its future maintenance as a beacon, and for the permanent care and preservation thereof as a monument of art and the continued good will of the

great nation which aided us in our struggle for freedom."

Under the authority of this resolution, on the 4th day of July, 1884, the minister of the United States to the French Republic, by direction of the President of the United States, accepted the statue and received a deed of presentation from the Franco-American Union, which is now preserved in the archives of the Department of State.

I now transmit to Congress a letter to the Secretary of State from Joseph W. Drexel, esq., chairman of the executive committee of "the American committee on the pedestal of the great statue of 'Liberty Enlightening the World,'" dated the 27th of April, 1886, suggesting the propriety of the further execution by the President of the joint resolution referred to, by prescribing the ceremonies of inauguration to be observed upon the complete erection of the statue upon its site on Bedloes Island, in the harbor of New York,

Thursday, the 3d of September, being the anniversary of the signing of the treaty of peace at Paris by which the Independence of these United States was recognized and secured, has been suggested by this committee, under whose auspices and agency the pedestal for the statue has been constructed, as an appro-

priate day for the ceremonies of inauguration.

The international character which has been impressed upon this work by the joint resolution of 1877 makes it incumbent upon Congress to provide means to carry their resolution into effect. Therefore I recommend the appropriation of such sum of money as in the judgment of Congress shall be deemed adequate and

proper to defray the cost of the inauguration of this statue.

I have been informed by the committee that certain expenses have been incurred in the care and custody of the statue since it was deposited on Bedloes Island, and the phraseology of the joint resolution providing for "the permanent care and preservation thereof as a monument of art" would seem to include the payment by the United States of the expense so incurred since the reception of the statue in this country.

The action of the French Government and people in relation to the presentation of this statue to the United States will, I hope, meet with hearty and responsive action upon the part of Congress, in which the Executive will be most happy to

cooperate.

GROVER CLEVELAND.

EXECUTIVE MANSION, May 11, 1886.

To the President:

I transmit to you herewith a letter dated April 27, 1886, addressed to this Department by Joseph W. Drexel, esq., chairman of the executive committee of "the American committee on the pedestal of the great statue of 'Liberty Enlight-ening the World.'" Mr. Drexel's letter, after referring to the joint resolution of Congress approved March 3, 1877, in accordance with which the statue was accepted by this Government, suggests the propriety of taking measures for its proper inauguration upon its completion, and asks for the payment of certain expenses incurred in taking care of the statue.

I recommend that the subject be submitted to Congress for its consideration.

Respectfully submitted.

T. F. BAYARD.

NEW YORK, April 27, 1886.

DEAR SIR: I am instructed by the executive committee of the American committee on the pedestal of the great statue of "Liberty Enlightening the World" to lay before you an account of the progress and present condition of their enter-prise, together with a suggestion of the duties devolving upon the Government of the United States under the existing circumstances.

In order, however, that you may clearly understand the subject, it may be well

to recall its history.

You will doubtless remember that during the year 1875, when the people of the United States were making preparations for the celebration, in 1876, of the hundredth anniversary of their national independence, the people of the sister Republic of France desired to give some token of their sympathy in the occasion. their ancestors had been in alliance with our fathers in the great Revolutionary struggle which ended in the establishment of our independence, it was natural and appropriate that they should desire to take part in its centennial commemoration. A committee was accordingly formed, called the "Union Franco-Américaine de France," to devise the modes in which they could best give expression to their feelings. Among the members of this committee were many of the most eminent citizens of France, including Oscar de Lafayette, the Marquis de Noailles, the Marquis de Rochambeau, Count de Tocqueville, Cornelius De Witt, Paul de Rémusat. Edward Laboulaye, and Henri Martin; some of them descendants of the heroes who helped us in "the times that tried men's souls," and others distinguished for their lifelong devotion to republican principles. It was decided by the Union to present to the people of this country a colossal statue of "Liberty Enlightening the World," of which the models had just been made by an eminent French artist, M. Félix Bartholdi. In their address to the people of France, soliciting funds for the construction of this statue, the committee said:

"Our design is to raise a monument, in remembrance of a glorious anniversary, which shall be unequaled in its kind. We propose the erection of it in the harbor of the metropolitan city of New York, on an island belonging to the United States of the American Union, and in face of Long Island, where some of the most memorable battles of independence were fought. This gigantic statue, whose frame on the horizon will be the good cities of New York, Brooklyn, and Jersey City, will rise from the bosom of the waves, and on the threshold of a continent so full of new life, where vessels from all parts of the globe are constantly passing, represent the Goddess of Liberty as the enlightener of the world."

The money for this purpose was raised by voluntary subscription from all classes

of the people of France.

The citizens of New York, whose harbor had been designated as the proper site for this magnificent monument, promptly responded to the movement abroad, and at a meeting held in 1877 appointed a committee, of which Mr. William M. Evarts was chosen chairman, Mr. H. F. Spaulding treasurer, and Mr. Richard Butler secretary, to receive the noble gift, to provide a proper pedestal for the statue, and to secure from the Congress of the nation whatever legislation might be necessary In pursuance of a special message of President Grant, the and appropriate. Congress, on the 22d of February, 1877, passed unanimously the following joint resolution:

JOINT RESOLUTION authorizing the President to designate and set apart a site for the colossal statue of "Liberty Enlightening the World," and to provide for the permanent maintenance and preservation thereof.

Whereas the President has communicated to Congress the information that citizens of the French Republic propose to commemorate the one hundredth anniversary of our independence by erecting at their own cost a colossal bronze statue of "Liberty Enlightening the World," upon a pedestal of suitable proportions, to be built by private subscription upon one of the islands belonging to the United States in the harbor of New York: and

Whereas it is proper to provide for the care and preservation of this grand mon-

ument of art and of the abiding friendship of our ancient ally: Therefore,

Be it resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That the President of the United States be, and he is hereby, authorized and directed to accept the colossal statue of "Liberty" Enlightening the World," when presented by citizens of the French Republic, and to designate and set apart for the erection therefor a suitable site upon either Governors or Bedloes Island, in the harbor of New York: and upon the completion thereof shall cause the same to be inaugurated with such ceremonies as will serve to testify the gratitude of our people for this expressive and felicitous memorial of the sympathy of the citizens of our sister Republic; and he is hereby authorized to cause suitable regulations to be made for its future maintenance as a beacon, and for the permanent care and preservation thereof as a monument of

art and of the continued good will of the great nation which aided us in our

struggle for freedom."

In exercise of the power thus intrusted to him, President Hayes requested Gen. William T. Sherman to determine which of the two places mentioned in the resolution was best adapted to the purpose in view. General Sherman chose the island known as Bedloes Island, which was no longer needed for military uses, as a position admirably fitted for the statue, regarded either as an ornament or a beacon. That island was thereupon transferred by the War Department to the temporary occupation of the American committee, which proceeded immediately to divest it of the few useless buildings upon it and to prepare the ground for the foundation of the pedestal. Gen. Charles P. Stone, a military engineer of the highest qualifications and great experience, was chosen by the committee, on the recommendation of Generals Grant, Sherman, and others, as their responsible and active agent in the prosecution of the work of erecting the pedestal, which was found to be one of unexampled magnitude and difficulty. As the funds required were to be raised, according to the joint resolution, by voluntary subscription, the committee addressed their appeals to all parts of the Republic, and in the end succeeded in getting the amount of money which was necessary—over \$311,000. The expenditures were increased considerably beyond the original estimates of the committee by the slowness with which the subscriptions came in, which necessitated prolongations and delays of labor, and by the unexpected outlays incurred in the reception and unloading of the vessels in which the great statue was borne across the seas.

The statue was completed in 1884, and formally received by the United States

minister, Hon. Levi P. Morton, in Paris, under the instructions of the State Department, and it was dispatched to the United States in vessels of the French Republic, which has always manifested the profoundest interest in the subject. arrival of these vessels in the harbor of New York, in the month of June, 1885, was made the occasion of a brilliant aquatic display and civic festivities that were alike honorable to the givers and receivers of the munificent present, which

has been well called a new wonder of the world.

The expenses of this reception were borne by the committee, aided by the municipal government and the Chamber of Commerce of the city of New York.

The executive committee are happy to report that this gigantic pedestal has been finished according to the designs of the distinguished architect, Mr. Richard M. Hunt, and that the only work remaining to be done is to raise the statue itself to its proper position. This work they hope to accomplish in the course of the coming summer, when the entire monument will be handed over to the possession and

disposal of the Federal Government.

It will be seen by the joint resolution of 1877, cited above, that the President of the United States is authorized "to cause the said statue to be inaugurated with such ceremonies as will serve to testify the gratitude of our people for this expressive and felicitous memorial of the sympathy of the citizens of our sister Republic;" and the executive committee would therefore beg leave to suggest to the President, through you, his first minister, that the said ceremonies of inauguration might be observed with signal propriety on the 3d of Sep ember next, the hundredth anniversary of the signing of the treaty of peace at Paris, which consummated the glorious work begun in 1776. It is understood that at that time the French Government will be willing to participate in the event by a suitable representative delegation. As the occasion will require the expenditure of some money, I need hardly remind you that the appropriation of it must be made by the Congress now in session.

I have the honor to be, your obedient servant.

JOS, W. DREXEL, Chairman Executive Committee.

Hon. THOMAS F. BAYARD, Secretary of State of the United States.

> DEPARTMENT OF STATE. Washington, May 25, 1886.

Hon. JOHN SHERMAN,

Chairman of the Committee on Foreign Relation's, Senate:

Sir: In response to the inquiry contained in your communication of the 20th instant, I have the honor to transmit to you herewith a copy of a letter to this Department from the Secretary of War furnishing the information desired by your committee in relation to the probable expense of the inauguration of the statue of Liberty Enlightening the World, and to the cost of the completion of that work.

I have the honor to be, sir, your obedient servant,

JAS. D. PORTER, Acting Secretary.

INAUGURATION OF BARTHOLDI STATUE.

WAR DEPARTMENT. Washington City, May 22, 1886.

Sir: In accordance with the suggestions contained in the inclosed letter of the 22d instant, from the Chief of Engineers, I have the honor to transmit for your information copies of communications dated the 19th and 21st instant, respectively, from Gen. Charles P. Stone, the engineer in charge of the Statue of Liberty, in relation to the probable expense of the inauguration ceremonies of that statue and to the cost of completion of the work.

Very respectfully, your obedient servant,

S. V. BENÉT.

Brigadier-General, Chief of Ordnance, and Acting Secretary of War. The SECRETARY OF STATE.

> OFFICE OF THE CHIEF OF ENGINEERS, UNITED STATES ARMY, Washington, D. C., May 22, 1886.

SIR: I have the honor to transmit herewith copies of communications received this day in relation to the probable expenses of the inauguration ceremonies of the Bartholdi Statue and of the cost of completion of the works.

I beg leave to suggest that these papers be referred to the State Department for

transmission to Congress.

These papers contain the most reliable information which this office is capable of furnishing at the present time.

Very respectfully, your obedient servant,

JOHN NEWTON, Chief of Engineers,

Hon. WM. C. ENDICOTT, Secretary of War.

[Statue of Liberty, office of engineer in chief, No. 1 Broadway, room 140.]

NEW YORK, May 21, 1886.

DEAR GENERAL: I inclose herewith the estimate, which I have made with as much care as possible, for the cost of the proper installation of the Statue of Liberty. Generals Duane and Abbot very kindly accompanied me to Bedloes Island, on

the 19th instant, in compliance with your suggestion.

They agreed with me that the present wharf is utterly worn out and unsafe, and that it would be best to replace it by one of stone and béton. A wooden wharf would cost \$10,000 and would be only temporary, subject to the attack of worms and weather.

Generals Duane and Abbot both agreed with me that the proposed system of electric light illuminating the statue and throwing a beam upward from the flame of the torch would be preferable to any other, and General Duane kindly requested his assistant, Lientenant Millis, Corps of Engineers, who has had much personal experience in the arrangement of the electric light at Hell Gate, to confer with me about the details of the proper machinery, taking advantage of the results of experiments at the above-named place. That able young officer has conferred fully with me yesterday and to-day, and he believes that the amount stated in the estimate will establish the necessary light.

An elevator in the interior of the pedestal is evidently necessary for the decent satisfaction of the public, and the same power which during the night can supply

the electric light can during daylight work the elevator.

The necessity of large expense in clearing and arranging the grounds is only too

evident to all who visit the island.

The estimate for strengthening the interior walls is for about 1,200 cubic yards of beton. This strengthening is rendered necessary by the removal of the buildings which formerly occupied the interior and for supporting the thrust of the arches connecting the fort with the foundation mass of the pedestal.

The connecting arches for which estimate is made will require 3,300 cubic yards

of béton and very heavy centering, as the half arches have 40 feet span.

The platforms for the ceremony of inauguration must necessarily be very large in their proportions, very high, and will, therefore, require great quantities of lumber and timber-say 60,000 feet, and say \$850 in skilled and ordinary labor-\$150 for nails and spikes, etc.

As a great crowd will doubtless assemble on the day of inauguration, a large police force will be necessary, and I have estimated for 30 during twenty-four hours.

As the United States Government will doubtless have the courtesy to officially invite the French Government to send representative men of that Republic to be present on the occasion, estimate is made for their proper entertainment during their probable stay.

There will doubtless be present invited representatives of the several States and the diplomatic corps on the day of inauguration and such, together with the representatives of the Congress (Senate and House), the Army and Navy, and civil service, will probably number at least the 500 for whom refreshments are estimated.

The committee will be under great obligations to you for all that you may do to aid in the prompt securing of the proper appropriation, and to their thanks in

advance I beg to be permitted to add my own personal thanks.

Very truly, yours,

CHAS. P. STONE, Engineer in Chief.

Maj. Gen. John Newton, Chief of Engineers, U. S. Army.

[Statue of Liberty, Office of Engineer in Chief, 1 Broadway, Room 140.]

NEW YORK, May 19, 1886.

Estimate for appropriation for installation of Statue of Liberty.

For amount of memorandum by H. F. Spaulding, treasurer of American committee	\$15,000
For construction of platform for ceremonies of inauguration, decorations,	
music, and police For refreshments for, say, 500 invited guests	3, 520 2, 500
For unforeseen expenses of inauguration day	480
For entertainment of, say, 30 official French guests during, say, thirty days, at \$10 each	9,000
For clearing grounds of island, grading, and removing unsightly struct-	0,000
For building a new wharf of stone and concrete	5,000
For electric-light plant	16,000 15,000
For elevator in interior of pedestal	6,000
For strengthening interior walls of court For connecting arches between walls of fort and foundation mass of	7, 200
pedestal	26, 400
Total	106 100
Correct D. Correct	-

CHAS. P. STONE, Engineer in Chief.

[Office of the American Committee of the Statue of Liberty, No. 55 Liberty street, room No. 22. William M. Evarts, chairman; Richard Butler, secretary; Henry F. Spaulding, treasurer. Executive committee: Joseph W. Drexel, chairman; Parke Godwin, J. W. Pinchot, V. Mumford Moore, Frederick A. Potts.]

NEW YORK, May 17, 1886.

The American committee has received voluntary contributions from the people for building the pedestal of the Statue of Liberty, about \$323,000. It is now com-

Among the items of expenditure are the following: For landing the statue from the Isere, housing and protecting it on Bedloe Island about

For wages paid two watchmen for about four years, as demanded of us by \$4,450

the Secretary of War, for the protection of Government property on the island, each man, at \$60 per month 5,760

..... 10, 210

The committee thinks it belongs to the Government to reimburse us for these outlays.

Our executive committee is in debt as follows:	
For borrowed money	\$3,000
For balance due on contract for heavy steel girders and fastenings for the statue	5,000
Total	8,000
Our committee considered its task completed when the pedestal was finished, but in its anxiety to have the statue placed in position for dedication on the 3d of September next, made an appeal to the public for the funds necessary for that purpose, and entered into a contract for the erection of the statue (including services of our chief engineer)	12,500 500
Total. We have received in response to our appeals about	13,000 6,000
Leaving balance still needed.	7,000

The foregoing figures are approximately correct.

As yet the Government has paid nothing toward the expenses of this grand international historical monument. We therefore respectfully ask that the sum of \$15,000 be inserted as an item in an appropriation for expenses incidental to the inauguration of the Statue of Liberty, to be used to square up the accounts of our committee, as herein stated.

Respectfully submitted by order of the board.

HENRY F. SPAULDING,
Treasurer American Committee Statue of Liberty.

FIFTIETH CONGRESS, FIRST SESSION.

April 11, 1888.

[Senate Report No. 934.]

Mr. Brown, from the Committee on Foreign Relations, submitted the

following report:

The Committee on Naval Affairs, to whom was referred the bill (H. R. 639) providing that Commander John W. Philip should be authorized to accept a silver pitcher tendered to him by the Government of the United States of Colombia, beg leave to report as follows:

A reference to the letters and documents from the Secretaries of the State and Navy Departments, presented herewith, will show that, on the request of the Colombian Government, Commander Philip was detailed, on the 10th of January, 1884, to inspect a revenue cutter built for that Government at Wilmington, Del., and that Commander Philip rendered that service to the satisfaction of that Government, which, in token of its appreciation of the manner in which the duty was performed, tendered to him the silver pitcher referred to. The committee are of the opinion that, under the circumstances, the consent of Congress may very properly be given to the acceptance of the gift by Commander Philip.

DEPARTMENT OF STATE, Washington, January 12, 1886.

Sir: I have the honor, at the instance of the Colombian minister here, and with the approval of the Secretary of the Navy, to ask that Congressional action may be taken to enable Commander John W. Philip, U. S. Navy, to accept a silver pitcher from the Colombian Government, in recognition of his service in inspecting in 1884 the revenue cutter Boyaca for that Government.

I have the honor to be, sir, your obedient servant,

T. F. BAYARD.

The Hon. John F. Miller, etc., Committee on Foreign Relations, Senate.

NAVY DEPARTMENT, Washington, January 30, 1886.

SIR: I have the honor to acknowledge the receipt of your letter of the 28th instant, and beg to inclose herewith a copy of the Department's order, dated December 10, 1883, to Commander John W. Philip, U. S. Navy, directing him to proceed to Wilmington, Del., and inspect the revenue cutter *Boyaca*, built by the Pusey and Jones Company, of that city, for the Colombian Government, together with copies of all other papers bearing upon the subject on file in this Department. I have the honor to be, sir, your obedient servant,

W. C. WHITNEY,

Secretary of the Navy.

Hon. JOHN SHERMAN, Acting Chairman Senate Committee on Foreign Relations.

> DEPARTMENT OF STATE. Washington, November 5, 1883.

SIR: I have the honor to bring to your consideration the inclosed copy of a dispatch from the minister of the United States at Bogota, of September 30 last, preferring the request of the Colombian Government that a naval officer of the United States be detailed to inspect a revenue cutter now being built at Wilmington, Del., for Colombia, before its final acceptance by the Government. I transmit, at the same time, a paper containing the contract for the construction of the vessel in question, and will thank you to return the same for our files when you will have made such use of the paper as your Department thinks advisable.

I have the honor to be, sir, your obedient servant,

W. HUNTER, Acting Secretary.

Hon. WILLIAM E. CHANDLER. Secretary of the Navy.

No. 112.7

UNITED STATES LEGATION, Bogota, September 30, 1883.

SIR: I beg to inclose herewith a copy and translation of a note which I have received from the Colombian minister for foreign affairs, dated the 25th instant. and to earnestly express the hope that the request therein made may be granted by the Navy Department. I inclose also the copy of the Diar. Oficial referred to in the minister's note, and likewise a copy of my note to him, dated the 26th instant. I have the honor to be, sir, your obedient servant,

WILLIAM L. SCRUGGS.

Hon, FRED'K T. FRELINGHUYSEN, Secretary of State, Washington, D. C.

[Inclosure 2 in No. 112.—Translation.]

BOGOTA, September 25, 1883.

SIR: The executive power has arranged, through the home department, that the coasting vessel contracted for in the name of the Colombian Government by Señor Miquel Camacho Roldan, of New York, with Messrs. Pusey, Jones & Co., of Wilmington, Del., be received under the inspection and report of a naval officer of the United States, in order that by this means there may be nothing wanting in the fulfillment of the contract and that the vessel should satisfy the needs of the public service for which it is destined.

To this end the executive power hopes that the Government of the United States will kindly lend the aid of one of its naval officers for the purpose indicated, and in order to obtain this courtesy I direct this note to your excellency, accom-

panied by the number of the Diario Oficial in which the contract is published.

I beg that your excellency be pleased to communicate the contents of this note to the Department of State at Washington, for the information and consideration of His Excellency the President of the United States of America, and also, should this request be granted, to have communicated at the same time to Señor Miquel Camacho Roldan, in New York, the name of the naval officer that may be designated and the date on which the examination of the vessel can take place.

In the name of the national executive I present, for transmission to your excellency's Government, his expressions of the most sincere thanks and for yourself the assurances of my most distinguished consideration.

I remain your excellency's very attentive servant.

ANTONIO ROLDAN.

To His Excellency WILLIAM L. SCRUGGS, Minister Resident of the United States of America.

[Inclosure 3 in No. 112.]

UNITED STATES LEGATION. Bogota, September 26, 1883.

Mr. Secretary: I have had the honor to receive your excellency's polite note of yesterday (and also the number of the Diario Oficial to which it refers) relative to the revenue cutter now being built in the United States for and on account of the Colombian Government. It shall be my care to transmit the same to my Government by the mail of the 30th instant, and I doubt not that the request therein so courteously made will be most cheerfully granted by the President.

With renewed assurances of my most distinguished consideration, I have the

honor to remain your excellency's most obedient servant,

WILLIAM L. SCRUGGS.

Fo His Excellency Dr. Antonio Roldan, Secretary for Foreign Affairs of the United States of Colombia.

NAVY DEPARTMENT. Washington, November 14, 1883.

SIR: I have the honor to acknowledge the receipt of your letter of the 5th instant, bringing to my attention the request of the Colombian Government that an officer of the Navy be detailed to inspect a revenue cutter being built at Wilmington, Del., for Colombia, and inclosing a copy of a dispatch from the minister of the United States at Bogota, together with a copy of the Diario Oficial, of Bogota, in which the contract is published.

In reply I have pleasure in informing you that this Department will detail an officer to inspect the steamer being built for the Colombian Government by the Pusey & Jones Company with instructions to carefully avaning and report

Pusey & Jones Company, with instructions to carefully examine and report whether or not the specifications of the contract have been complied with.

The officer selected will be ordered to proceed with the inspection when this Department is informed that the vessel is ready. The copy of the Diario Oficial will be returned to the Department of State as soon as the report shall have been completed.

I am, sir, your obedient servant,

ED. T. NICHOLS. Acting Secretary of the Navy,

Hon. FREDERICK T. FRELINGHUYSEN, Secretary of State.

> DEPARTMENT OF STATE, Washington, November 20, 1883.

SIR: I have the honor to transmit herewith, in connection with my letter to you of the 16th instant, the inclosed copy of one addressed to me by Mr. Roldan, of the 17th instant, relative to the revenue cutter now building at Wilmington, Del., for the Colombian Government and whose inspection by a naval officer of the United States is desired by that Republic.

I have the honor to be, sir, your obedient servant,

FREDK. T. FRELINGHUYSEN.

Hon. WM. E. CHANDLER, Secretary of the Navy.

[Inclosure.]

NEW YORK, November 17, 1883.

Sir: I have the honor to acknowledge the receipt of your esteemed favor of the 16th instant, relative to the inspection of the revenue cutter now building for the Government of the United States of Colombia by an officer of the Navy of

S. Doc. 231, pt 4——5

the United States, and in reply thereto beg to say that I am at present unable to name the precise date on which she will be in readiness, but will at once communicate with the builders, and upon receipt of their reply will advise your Department of the date on which she will be completed and ready for inspection.

I am, sir, yours, very respectfully,

M. CAMACHO ROLDAN.

Hon. FREDERICK T. FRELINGHUYSEN. Secretary of State, Washington, D. C.

D.

DEPARTMENT OF STATE, Washington, January 7, 1884.

SIR: I have now the honor to apprise you, in connection with the Department's communication to you of November 16 last. of the receipt of a letter of the 4th instant (a copy of which is herewith inclosed) from Mr. M. Camacho Roldan, stating that the revenue steamer built at the yard of the Pusey & Jones Company, Wilmington, Del., for the United States of Colombia, is now ready for and awaiting inspection as desired by that Government by an officer of the United States Navy before the formal acceptance of the steamer by Colombia.

I have the honor to be, sir, your obedient servant,

JOHN DAVIS. Acting Secretary,

Hon. WILLIAM E. CHANDLER. Secretary of the Navy.

NEW YORK, January 4, 1884.

SIR: I beg to refer to your esteemed favor of November 17 ultimo, also to my reply thereto of the following day's date, and to advise you that the revenue steamer built at the yard of the Pusey & Jones Company, Wilmington, Del., for the Government of the United States of Colombia, is now ready for and awaiting inspection by an officer of the United States Navy detailed for that purpose by request of the said Government of the United States of Colombia made through your Department.

I have the honor to be, sir, your obedient servant.

M. CAMACHO ROLDAN, Per J. N. VAN SICKEL.

Hon. FREDERICK T. FRELINGHUYSEN, Secretary of State, Washington, D. C.

> NAVY DEPARTMENT, Washington, D. C., January 10, 1884.

SIR: Application having been made by the Government of the United States of Colombia that a steam revenue cutter built by the Pusey & Jones Company, of Wilmington, Del., may be inspected by a United States naval officer, for the purpose of determining whether the specifications and the contract I etween the company and the Government have been carried out, and whether the vessel is likely to fulfill the conditions required of her as a revenue cutter, you have been selected for that duty.

The Department having been notified that the steamer has been completed and is now awaiting inspection by an officer of the United States Navy, you will proceed without delay to New York and put yourself in communication with Senor M. Camacho Roldan, 87 Wall street (P. O. box 1609), and arrange with him the time for making the necessary steam trials and examinations.

From New York you will proceed to Wilmington. Del., and having acquainted the Pusey & Jones Company with the tenor of your instructions, and having received authority from them, make careful examinations of the steam vessel built under contract with the Government of the United States of Colombia, a copy of which is contained in the Diario Oficial, published in Bogota May 19, 1883, herewith inclosed.

After having thoroughly examined the above-mentioned steamer, under way and at the dock, you will report to this Department whether or not the steamer

fulfills the terms of the specifications and contract and whether or not the vessel

is likely to prove efficient in the service for which she is intended.

Should you find that the terms of the contract have not been carried out, you will so inform the Department, stating wherein the specifications have not been complied with.

Be pleased to return to the Department the inclosed copy of the Diario Oficial

when you shall have finished the examination of the steamer.

Upon the completion of this duty return to your home and await orders. This employment on shore duty is required by the public interests, and such service will continue until February 10, 1884, unless it is otherwise ordered.

Very respectfully,

W. E. CHANDLER, Secretary of the Navy.

Commander J. W. PHILIP, U. S. N., Washington, D. C.

> NAVY DEPARTMENT. Washington, January 17, 1884.

Sir: I have the honor to inclose herewith, in connection with your letter of the 7th instant, notifying this Department "that the revenue steamer built at the yard of the Pusey & Jones Company. Wilmington, Del., for the United States of Colombia, is now ready for and awaiting inspection," a copy of an order to Commander J. W. Philip, United States Navy, and a copy of his report upon the inspection of the steamer Boyaca, built by the Pusey & Jones Company, Wilmington, Del., for the Government of the United States of Colombia. I also inclose, as requested in your letter of the 5th of November last, the copy of the Diario Oficial, published in Posseta forwarded therewith in Bogota, forwarded therewith.

Very respectfully, your obedient servant.

WM. E. CHANDLER, Secretary of the Navy.

Hon. FREDERICK T. FRELINGHUYSEN, Secretary of State.

NEW YORK, January 16, 1884.

Sir: In obedience to your order of January 10, I have carefully examined the steamer Boyaca, built by the Pusey & Jones Company of Wilmington, Del., for the Government of the United States of Colombia, and respectfully submit the follow-

ing report:

The steamer was in the water, coaled and provisioned, and about ready for her sea voyage; consequently I could not make that examination of her under-water portion, viz, stem, sternpost, rudderpost, rudder sheathing, etc., that the specifications called for, but all parts of the vessel attainable were carefully examined and measured and found to be in strict accordance with the specifications and very neatly and well constructed.

Owing to ice in river and creek, it was impracticable to get the vessel under way. Senor Roldan agreeing with me that it would be best to dispense with that part of

the examination.

A "dock trial" was had, when the engines ran very smoothly, noiselessly, and with but little vibration, thus showing evidences of careful construction from good material, with promises of giving entire satisfaction. In examining and measuring about the vessel, if discrepancies exist, they are in favor of the steamer. instance, both anchors and chains are larger and heavier than the specifications

call for and the boats are lifeboats instead of the ordinary yard-built cutters.

On questioning the captain and chief engineer they told me that so far as they were able to judge the best of material had been used in the construction of the hull and engines and that the company (Pusey & Jones) had been most liberal in the supply of supplies and stores, both in regard to quantity and quality.

After the above examinations I am able to report that the steamer Boyaca fulfills

the terms of the specifications and contract, and I am of the opinion that she will prove most efficient in the service for which she is intended.

I return herewith the copy of the Diario Oficial.

Hoping my report will meet with the approval of the Department, I remain, sir, very respectfully,

JNO. W. PHILIP, Commander, United States Navy.

Hon. W. E. CHANDLER, Secretary of the Navy. In view of the facts set forth in the foregoing correspondence the

committee recommend the passage of the bill.

The Committee on Foreign Relations of the Senate adopt the foregoing report of the House committee, and recommend the passage of the bill.

FIFTY-FIRST CONGRESS, FIRST SESSION.

May 7, 1890.

[Senate Report No. 885.]

Mr. Sherman, from the Committee on Foreign Relations, submitted

the following report:

The Committee on Foreign Relations respectfully report a joint resolution "authorizing Ensign J. B. Bernadou, United States Navy, to accept two vases presented to him by the Government of Japan," and, for the reasons stated in accompanying letters from the Departments of State and Navy, recommend that it do pass.

> DEPARTMENT OF STATE, Washington, May 6, 1890.

SIR: I have the honor to bring to your attention the inclosed copy of a letter addressed by my predecessor to your committee, February 28, 1889, with its accompaniments concerning two flower vases presented to Ensign J. B. Bernadou, United States Navy, by the Government of Japan, and the necessary authority of

Congress for him to accept them.

No action appears to have been taken upon that letter owing no doubt, to its being so near the final adjournment of the Fiftieth Congress. I venture, therefore, to suggest that the Department's previous recommendation may receive favorable consideration, and that authority, under the provisions of the act of Congress approved January 31, 1881 (Stat. L., vol. 21, p. 603), may be given Ensign Bernadou to accept the testimonial referred to.

I have the honor to be, sir, your obedient servant,

JAMES G. BLAINE.

Hon. JOHN SHERMAN, Chairman Committee on Foreign Relations, United States Senate.

> DEPARTMENT OF STATE, Washington, February 28, 1889.

SIR: I have the honor to call your attention, with a view to securing such action on the part of Congress as may be proper, to a gift of two Japanese vases presented by the Imperial Japanese Government to Ensign J. B. Bernadou, United States Navy, in recognition of services rendered to certain Japanese subjects in Korea.

In the month of December, 1884, Mr. Bernadou was temporarily attached to the United States legation at Seoul, Korea, at which time a very serious outbreak occurred in that capital, endangering the lives of all foreign residents. On the 9th of December, 1884, by direction of Mr. Foote, then in charge of the legation of the United States, Ensign Bernadou, proceeded to Chemulpho in charge of a number of Japanese refugees, whom he safely conducted to the seashore. In May, 1885, Mr. Masuki Konto, the Japanese charge at Seoul, informed Mr. Foulk that the Japanese Government had instructed him to transmit a pair of flower vases which His Majesty's Government desired to present to Mr. Bernadou "as a token of acknowledgment of the kind services he performed in escorting to His Imperial Japanese Majesty's consulate at Chemulpho a number of Japanese subjects;" Mr. Kondo also requested Mr. Foulk to convey to Mr. Bernadou the sentiments of high appreciation of His Majesty's Government.

The vases in question have now reacted this Department, having, for various

causes, been delayed in their transmission hither. My colleague, the Secretary of

the Navy, has been informed of their receipt, and he concurs with me in thinking that the services of Mr. Bernadou appear to be of such a character as would justify the Congress in granting him permission to receive the present.

A statement of the occurrences in Korea referred to may be found in the volume

of Foreign Relations for 1885, pages 331-335.

I have the honor, etc.,

T. F. BAYARD.

Hon. JOHN SHERMAN. Chairman Committee on Foreign Relations, United States Senate.

> NAVY DEPARTMENT, Washington, February 25, 1889.

SIR: The Department has to acknowledge the receipt of your letter of the 21st instant, stating that you have in your possession a pair of Japanese vases, a present from the Japanese Government to Ensign J. B. Bernadou, in recognition of services rendered to certain Japanese subjects in Korea, and asking whether it is the Department's desire that permission should be asked of Congress for their

acceptance by Ensign Bernadou.

In reply I have to say that the Department agrees with you that the services of Mr. Bernadou appear to have been of such a character as would justify the Congress in granting him permission to receive the present, and I have to respectfully request that you communicate the facts to Congress, with a view to its granting Ensign Bernadou permission to accept the present tendered in such a complimentary manner.

Very respectfully, etc..

W. C. WHITNEY, Secretary of the Navy.

The SECRETARY OF STATE.

June 16, 1890.

[Senate Report No. 1367.]

Mr. Payne, from the Committee on Foreign Relations, submitted

the following report:

The Committee on Foreign Relations, to whom was referred the resolution (S. R. 66) authorizing Commander Dennis W. Mullan, United States Navy, to accept the medal presented to him by the Chilean Government, having duly considered the same, respectfully report:

That the correspondence in the appendix submitted herewith shows that Commander Dennis W. Mullan, United States Navy, was on November 26, 1880, ordered by Capt. J. A. Howell, United States Navy, then commanding the U. S. war ship Adams, off Callao, Peru, to attach himself to the headquarters of the Chilean army as a representative of the United States Navy, then stationed and serving in the South Pacific Ocean, for the purpose of observing the military operations then going on between the Governments of Chile and Peru, and to report thereon for the benefit of the proper authorities of the United States; that while so attached to the headquarters of the Chilean army, Commander Dennis W. Mullan, United States Navy, was present at the battles of Chorillos and Miraflores, in Peru.

As a compliment to said officer and as a memento of the matters set forth in the correspondence submitted herewith, the proper authorities of the Chilean Government forwarded, through the American minister at Santiago, Chile, Hon. William R. Roberts, a gold medal to be presented to Commander Dennis W. Mullan, United States Navy, through the Secretary of State, and which medal is now in the

State Department in the custody of the Secretary of State.

The correspondence contained in the appendix herewith shows that

Commander Dennis W. Mullan, United States Navy, by his official acts as an officer of the Navy, has on sundry occasions reflected great credit upon himself and upon the Navy, and which have rendered him eminently worthy to receive at the hands of the Chilean Government this testimonial of their appreciation, as fet forth in said corre-

Wherefore your committee recommend the adoption of said reso-

APPENDIX.

DEPARTMENT OF STATE, Washington, May 3, 1890.

SIR: I have the honor to acknowledge the receipt of your letter of the 30th ultimo, with which you lay before me sundry papers concerning the services of Commander Dennis W. Mullan. United States Navy, in the Samoan Is and and during the war between Chile and Peru, together with a copy of joint resolution (S. R. 66) authorizing that officer to accept a medal presented to him by the Chilean Government. On behalf of the Committee on Foreign Relations you request the opinion of this Department "as to whether this authorization would be agreeable to the Government of Peru."

It appears from the recital of the resolution that in 1880, under authorization and detail of Capt. J. A. Howell. United States Navy, then commanding the Adams. Commander Mullan accompanied the Chilean military forces to observe and make report concerning operations then in progress against Peru, and that the medal in question is tendered to Commander Mullan by the Chilean Government to commemorate his presence at the battles of Chorillos and Miraflores, in Peru.

It is not uncommon in time of war for military and naval officers of neutral governments to be attached to the headquarters of the respective forces during the progress of active hostilities for the purpose of observing and reporting to their own governments concerning the operations of combatants. This has been the case in several recent European wars, and our attachés have in no wise been identified with the interests of the governments whose forces they accompanied. Their function has been simply that of disinterested observers and chroniclers of the events falling under their notice. Inasmuch as the impartial status of the officer is an essential condition of his presence, it is not seen how the fact of his accounpanying the forces of one of the belligerents could in any way be impugued by the other; neither is it perceived how a courteous recognition or commemoration of his presence by the government with whose army he was stat oned could in the slightest degree wound any just susceptibilities of the opposed government.

A precedent for the proposed authorization in favor of Commander Mullan is found in the act of Congress approved January 31, 1881 (Stat., vol. 21, p. 604), by which Lieut. Francis V. Greene, of the United States Army, was authorized to accept certain decorations conferred upon him by the Government of Russia for bravery under fire at Shipka Pass, Plevna, and other engagements in the course of the Russo-Turkish campaign of 1877.

Returning herewith, as requested, the papers which accompanied your letter, I have the honor to be, sir, your obedient servant,

JAMES G. BLAINE.

Hon. JOHN SHERMAN. Chairman Committee on Foreign Relations, United States Senate.

JOINT RESOLUTION authorizing Commander Dennis W. Mullan, United States Navy, to accept a medal presented to him by the Chilean Government.

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled. That Commander Dennis W. Mullan. United States Navy, be, and he is hereby, authorized to accept a medal presented to him by the Government of Chile through the State Department of the United States, as a memento of his presence with the headquarters of the Chilean army at the battles of Chorillos and Miraflores, in Peru, by virtue of an official order issued November 26, 1880, by Capt. J. A. Howell, United States Navy, then commanding the United States war ship Adams, off Callao. Peru, to Commander Dennis W. Mullan, to accompany General Baquedano, chief of the Chilean military forces, for the purpose of observing, as a representative of the American Navy, the military and naval operations then going on between the Governments of Chile and Peru, and making a report thereon to the proper authorities of the Government of the United States.

BUREAU OF NAVIGATION, NAVY DEPARTMENT, Washington, April 1, 1890.

SIR: In accordance with your request of the 31st ultimo to the Department, the bureau incloses copies of letters written by Mr. Stephen J. Wheeler, master of American vessel Orion, and by Mr. Peter Colly, master of American barkentine Constitution, to the Navy Department.

Very respectfully,

F. M. RAMSAY, Chief of Bureau.

Commander D. W. MULLAN, U. S. Navy, Annapolis, Md.

SAN FRANCISCO, March 27, 1889.

DEAR SIRS: I desire to inform your respective Departments that I, Stephen James Wheeler, was the captain of the American vessel Orion which left San Francisco on November 15, 1888, laden with a cargo, consisting of supplies for the U. S. S. Nipsic, stationed at Apia. Samoan Islands, and of other stores, etc., and that my vessel reached Apia on December 23, 1888, on which date the German authorities in the harbor of Apia, Samoan Islands, attempted to search my vessel. This attempt I resisted, and the authority to do so I denied. I thereupon immediately reported a I these facts to the captain commanding the U. S. S. Nipsic, Commander Dennis W. Mullan, United States Navy, who, with very great promptness and cheerfulness, came to my immediate aid, and sent on board of my vessel one of his officers with a squad of his men from his ship Nipsic, and thereby prevented this outrageous violation of the rights of American vessels in the waters of the South Pacific Ocean which was attempted to be perpetrated upon me and my vessel by the German authorities.

It is proper, therefore, in my opinion, upon my arrival in the port of San Francisco, that I should duly report all these facts to your Departments at Washington, and at the same time to place on record the thanks and appreciation of myself and the other officers and crew of my vessel for the kind and efficient and valuable services of Commander Mullan, United States Navy, commanding the U.S.S. Nipsic, and for the very courteous manner in which he came to the rescue and support of myself and officers and crew of my vessel on said occasion, and also for the prompt, chivalric, and successful manner in which he resisted and prevented this unwarranted search, by a foreign power, of my vessel in the waters of the South Pacific Ocean, during a time of peace between the United States and

Germany.

I am, sirs, yours, very truly,

Stephen J. Wheeler, Captain of the Orion.

Hon. SECRETARY OF THE NAVY and Hon. SECRETARY OF STATE, Washington, D. C.

SAN FRANCISCO, CAL., April 2, 1889.

DEAR SIR: The undersigned, Peter Colly, captain of the American vessel Constitution, left this port of San Francisco, Cal., on December 6, 1888, loaded with a miscellaneous cargo for Apia. Samoan Islands, at which place 1 arrived with said vessel on February 1, 1889.

On my arrival at Apia the German authorities sent their officials to my vessel to examine my ship's papers, etc., which I would not permit to be done by them. My vessel remained in the harbor of Apia until February 13, 1889, on which date

she was wrecked in that harbor.

I now, therefore, write to the Navy Department to express my warm thanks and high appreciation for the valuable services rendered me by Capt. D. W. Mullan, of the Navy, commanding the U. S. Nipsic, during the time I was in the harbor of Apia, and especially for the valuable services he rendered me and my vessel by taking my anchor and mooring my vessel in the safest part of that har-

bor, and in rescuing, saving, and landing myself and the crew of my vessel on the day she was wrecked on a reef in that harbor, and which fact necessitated my

returning to San Francisco as a passenger on the steamer Zelandia.

For the very kind, voluntary, and successful efforts of Captain Mullan, of the Nipsic, on all these occasions, I desire, therefore, to now return to the Navy Depart-

ment at Washington the thanks of myself and of the crew of my vessel.

I am, sir, your very obedient servant,

PETER COLLY, Captain of the American Vessel Constitution.

Hon. BENJAMIN TRACY.

Secretary of the Navy, Washington, D. C.

[Senate Mis. Doc. No. 110, Fifty-first Congress, first session.]

PAPERS RELATIVE TO THE CONFERRING UPON COMMANDER DENNIS W. MULLAN. UNITED STATES NAVY, BY THE GOVERNMENT OF CHILE, A GOLD MEDAL,

UNITED STATES OF AMERICA,

Department of State:

To all to whom these presents shall come, greeting:

I certify that the documents hereto annexed are true copies from the files of this

Department.

In testimony whereof I, William F. Wharton, Acting Secretary of State of the United States, have hereunto subscribed my name and caused the seal of the Department of State to be affixed.

Done at the city of Washington this 3d day of February, A. D. 1890, and of the

Independence of the United States of America the one hundred and fourteenth. WILLIAM F. WHARTON. SEAL.

No. 30.7

United States Legation, Santiago, November 27, 1885.

SIR: I have the honor to inclose a medal which has been transmitted to me by the minister of war of Chile, with a request that I would have it forwarded to Captain Mullane, of the United States States Navy.

The letter of the minister of war, a copy of which, with translation, I inclose.

will explain the motive which has prompted its presentation. I also inclose a

copy of my reply to the minister.

I trust the medal will reach you. I had hoped to send it by the hands of some person returning to the United States, but finally concluded to trust it to the mails. I have the honor to remain, your obedient servant,
WILLIAM R. ROBERTS.

Hon. T. F. BAYARD, Secretary of State, Washington, D. C.

[Translation of No. 2 in 30.]

MINISTRY OF WAR, REPUBLIC OF CHILE, Santiago, October 14, 1885.

SIR: Believing that it will be agreeable to Mr. Mullan, captain of the corvette of the marine of the United States of North America, to preserve a remem' rance of the battles of Chorrillos and Miraflores, at which this officer found himself added to the general headquarters of the Chilean army, commissioned by the Government of the United States of North America in order to observe the operations of our forces, will you please have sent to the hands of Mr. Mullan the accompanying medal? It is the same as those which the chiefs of our army have received: but in sending it to Captain Mullan it is destined in the character of simply a memento, and not as a military recompense, which the Government of Chile could not agree to in this case, nor Mr. Mulfan accept.

With sentiments of distinguished consideration, I remain your attentive and con-

stant servant,

CARLOS AUTUNEZ.

Hon. WILLIAM R. ROBERTS,

Envoy Extraordinary and Minister Plenipotentiary of the United States of North America. [Copy of No. 3 in 30.]

UNITED STATES LEGATION, Santiago, October 28, 1885.

SIR: I beg to acknowledge the receipt of your esteemed favor dated the 14th instant, with the accompanying medal, requesting me to forward it to Captain Mullan, of the American Navy.

I assure your excellency that it will afford me great pleasure to transmit it to

my Government on the first favorable opportunity, accompanied with a copy of

your communication.

I have the honor, etc.,

WILLIAM M. ROBERTS.

Envoy Extraordinary and Minister Plenipotentiary of United States of America.

His Excellency Don Carlos Autunez, Minister of War.

> U. S. S. ADAMS (THIRD RATE), Off Callao, Peru, November 26, 1880.

SIR: H. M. S. Osprey having been detailed by Admiral Sterling, of Her Majestv's service, for the purpose of giving neutral officers a passage to such a point south as will enable them to communicate with General Baquedano, the chief of the Chilean forces, you will take passage in her to-morrow morning, November 27. Upon your arrival near the Chilean headquarters, you will communicate with General Baquedano, or the officer in command of the Chilean army, and present my letter requesting permission for you to accompany his staff during the operations near Lima. If the permission be granted, you will remain with the army, and will note the different features and incidents of the conflict, and report the same upon your return. If permission be not granted, you will return in the

Osprey. Very respectfully, J. A. HOWELL, Commander, U.S. Navy, Commanding U.S.S. Adams.

Lieut. Commander D. W. Mullan, U. S. N., U. S. S. Adams.

Annapolis, Md., February 5, 1890.

I hereby certify that the foregoing is a full, true, and correct copy of an original order issued to me November 26, 1880.

DENNIS W. MULLAN. Commander, U. S. Navy.

JOINT RESOLUTIONS tendering the thanks of the State of Maryland to Commander Denni W. Mullan, United States Navy, and authorizing the governor to procure and present to him as a testimonial, a gold chronometer watch, suitably inscribed.

Whereas Commander Dennis W. Mullan, U. S. Navy, a native of this State, commanded the United States war ship Nipsic during a critical period when confronted by a superior foreign naval force, and discharged with heroism and ability the delicate diplomatic duties that devolved upon him as a naval commander, by resisting the imperious demands made upon him by the commander of said naval force to surrender an American citizen, then under his protection on board of his said ship, and in vindicating American rights by preventing an attempt by a foreign power to search American vessels in the South Pacific Ocean; and

Whereas Commander Dennis W. Mullan also commanded said ship during the destructive and memorable hurricane in Samoan waters, South Pacific Ocean, in March, 1889, and with heroic bravery and nautical skill saved his ship during said

Whereas all of said services were perilous, demanding skill, courage, and ability as a naval commander, and said acts reflect credit upon the American Navy and upon his native State: Therefore,

Be it resolved by the general assembly of Maryland, That the thanks of the State of Maryland be, and they are hereby, tendered to Commander Dennis W. Mullan for his unflinching courage and gallant achievements in vindicating the rights of American citizens and of American vessels in foreign waters, and for his bravery and nautical ability in saving his ship during the destructive hurricane in Samoan waters.

Resolved. That as a testimonial of the skillful, able, and courageous manner in which Commander Dennis W. Mullan protected and vindicated American rights, and the bravery and nautical ability shown by him during the hurricane in Samoan waters, the governor of this State be, and he is hereby, authorized and directed to procure and present to Commander Dennis W. Mullan, U. S. Navy, a gold chro-

nometer watch, with an inscription as follows, to wit:

"The State of Maryland, to Commander Dennis W. Mullan, U. S. N., for his heroism and gallant services in protecting and vindicating American rights, and for the bravery and nautical ability shown by him during the hurricane of 1889,

in Samoan waters, South Pacific Ocean."

And be it further resolved, That the cost of said testimonial shall be paid by the

governor out of the contingent fund at the disposal of the executive.

R. F. BRATTAN, President of the Senate.
JOHN HUBNER, Speaker of the House of Delegates.

STATE OF MARYLAND, sct.:

I, Spencer C. Jones, clerk of the court of appeals of Maryland, do hereby certify that the foregoing is a full and true copy of the joint resolution of the general assembly of Maryland of which it purports to be a copy, as taken from the original joint resolution belonging to and deposited in the office of the clerk of the court of appeals aforesaid.

In testimony whereof I have hereunto set my hand as clerk and affixed the seal

of said court of appeals this 7th day of March, A. D. 1890.

[SEAL.]

SPENCER C. JONES, Clerk Court of Appeals of Maryland.

STATE OF MARYLAND, sct.:

I, Richard H. Alvey, chief judge of the court of appeals of Maryland, do hereby certify that Spencer C. Jones is clerk of the court of appeals of Maryland, and that the foregoing attestation by him is in due form and by the proper officer.

Given under my hand this 7th day of March, 1890.

R. H. ALVEY,

Chief Judge of the Court of Appeals of Maryland.

STATE OF MARYLAND, sct.:

I, Spencer C. Jones, clerk of the court of appeals of Maryland, do hereby certify that the Hon. Richard H. Alvey, who has signed the foregoing certificate, is, and at the time of so doing was, chief judge of the court of appeals of Maryland, and that full faith and credit are due to his acts as such.

In testimony whereof I have hereunto set my hand as clerk, and affixed the seal

of the said court of appeals, this 7th day of March, A. D. 1890.

SEAL.

SPENCER C. JONES, Clerk Court of Appeals of Maryland.

STATE OF MARYLAND,

Executive Department:

I, Elihu E. Jackson, governor of the State of Maryland, do hereby certify that Spencer C. Jones, esq., is clerk of the court of appeals of Maryland, and as such keeper of the acts and resolutions of the general assembly of the State, and that full faith and credit are due and ought to be given to his acts as such. In testimony whereof I have hereto set my hand and affixed the great seal of

the State of Maryland on this 7th day of March, A. D. 1890.

SEAL.

ELIHU E. JACKSON.

By the governor: E. W. Le Compte, Secretary of State.

FIFTY-FIRST CONGRESS, SECOND SESSION.

December 17, 1890.

[Senate Report No. 1871.]

Mr. Sherman, from the Committee on Foreign Relations, submitted

the following report:

The Committee on Foreign Relations report that His Majesty the King of Sweden and Norway has presented a box containing 354 medals to be delivered to the commander, officers, and crew of the U. S. S. Baltimore, to commemorate the service rendered by them to Sweden in carrying back to his native land the remains of Capt. John Ericsson. Your committee is of the opinion that these medals should be accepted and presented by the Department of State to the persons for whom they were designed, in compliance with the terms of section 3 of the act approved January 31, 1881, entitled "An act authorizing the persons therein named to accept of certain decorations and presents therein named from foreign Governments, and for other purposes," and report a joint resolution for that purpose, accompanied by the letters, hereto attached, from the Secretary of State, the Secretary of the Navy, and the commanding officer of the U. S. S. Baltimore.

DEPARTMENT OF STATE, Washington, December 16, 1890.

Sir: The Department has received a letter from the Acting Secretary of the Navy, a copy of which is inclosed, calling attention to the reception from our legation at Stockholm by Capt. W. S. Schley, commanding the U. S. S. Baltimore, of a box containing 354 medals, which His Majesty the King of Sweden and Norway desires to present to the commander, officers, and crew of that vessel, to commemorate the service rendered by them to Sweden in carrying back to his native land the remains of Capt. John Ericsson.

In view of the provisions of section 3 of the act of Congress approved January 31, 1881 (United States Statutes at Large, volume 21, page 604), and of the letter of the Acting Secretary of the Navy, I have the honor to ask that Congress will, if it deems it proper, authorize this Department to deliver the medals in question to the commander, officers, and crew of the U. S. S. Baltimore, in accordance with

the desire of His Majesty the King of Sweden and Norway.

I have the honor to be, sir, your obedient servant,

JAMES G. BLAINE.

Hon. John Sherman, Chairman of the Committee on Foreign Relations, United States Senate,

> NAVY DEPARTMENT, Washington, October 10, 1890.

SIR: I have the honor to transmit herewith a copy of a communication dated Kiel, Germany, 25th September, received from Capt. W. S. Schley, commanding the U. S. S. Baltimore, in which he advises the Department that the United States minister at Stockholm has sent on board the Baltimore a box containing 354 medals commemorative of the transportation of the remains of the late John Ericsson from America to Sweden, which it is the desire of the King of Sweden to present to the officers and crew of that vessel. In view of the act of Congress

with regard to the acceptance of presents of any kind by officers of the Navy from foreign governments, the matter is submitted to the Department of State for such action thereon as may appear to it to be proper.

Very respectfully,

F. M. RAMSAY, Acting Secretary of the Navy.

The SECRETARY OF STATE.

U. S. S. BALTIMORE (FIRST RATE), Kiel, Germany, September 25, 1890.

SIR: I have the honor to inform you that the United States minister at Stockholm, the Hon. W. W. Thomas, jr., sent on board this vessel on September 22, the day before my departure, a box containing 354 medals commemorative of the transportation of the remains of the late John Ericsson from America to Sweden in the U.S. S. Baltimore.

One of the medals is of gold, intended for the commanding officer; 31 are of silver, intended for each of the 31 officers on board; and 322 are of bronze, intended

for each one of the crew.

It is the desire of the King to present these medals to the officers and crew as a means to commemorate the service rendered by them to Sweden in bringing back to his home and country the remains of his most distinguished countryman.

As we are not permitted to accept these medals except by the authority of Congress, and as the ship will be absent from home for some time to come, I would ask the Department. on behalf of the officers and crew, that such action may be taken as will secure the necessary Congressional action preliminary to their accepting them.

These medals merely commemorate an incident, and are not intended as an order

or as a decoration of any kind from the King of Sweden and Norway.

The box containing them will be held on board, and the medals will not be delivered until the proper authority is given to accept them.

Very respectfully, your obedient servant,

W. S. Schley, Captain, U. S. N., Commanding.

The Secretary of the Navy, Navy Department, Washington, D. C.

List of officers of the U. S. S. Baltimore when the remains of Ericsson were taken to Sweden,

Lieutenant. Commander, Uriel Sebree.
Lieutenant, Edward W. Sturdy.
Lieutenant, Sidney H. May.
Lieutenant, Henry McCrea.
Lieutenant, Robert M. Doyle.
Lieutenant (junior grade), James H. Sears.
Lieutenant (junior grade), Herbert O. Dunn.
Lieutenant (junior grade), Benjamin W. Wells.
Lieutenant (junior grade), William S. Cloke.
Naval cadet, John B. Patton.
Naval cadet, Philip Williams.
Naval cadet, Fhilip Williams.
Naval cadet, Julius Prochazka.
Naval cadet, George L. Fermier.

Captain, Winfield Scott Schlev.

Naval cadet, Lay H. Everhart.
Naval cadet, Lawrence H. Moses.
Naval cadet, Claud B. Price.
Medical inspector, John H. Clark.
Passed assistant surgeon, Oliver Diehl,
Assistant surgeon, Edward R. Stitt.
Paymaster, William W. Woodhull.
Chief engineer, Charles E. De Valin.
Passed assistant engineer, Charles P.
Howell.
Passed assistant engineer, William Rowbotham.
Assistantengineer, George R. Salisbury.
Chaplain, Joseph P. McIntyre.
Captain of marines, Henry H. Coston.
Pay clerk, William M. Long.
Gunner, Peter Hanley.
Carpenter, John S. Waltemeyer,

Naval cadet, John R. Edie.

List of men on board the U. S. S. Baltimore on date of arrival at Stockholm, Sweden, September 12, 1890.

	-		
Name.	Rate.	Name.	Rate.
Abrahamsen, A	Sea.	Heyes William	Sea.
Ainsworth, R Albertson, Louis	C. hold.	Hayes, William Horn, Charles Hogan, George Holm, Adolph Horgan, Michael Houlihan, Michael Houlihan, Michael Howard, Charles Hurley, J. J. Hunt, H Hughes, James S Hunt, J. H Iriski, Sinjiro Jonbeck, Peter Johnson, Peter Johnson, James M Kearns, Peter J Kenny, Thomas Kelly, Edward Kinsey, Frederick E Kilbride, John Kinkichi, F	C. top.
Albertson, Louis	Sea.	Hogan, George	Cox.
Allen, J. J. Anderson, Charles Andersen, D. N. Andersen, Jerry	C. H.	Horgen Michael	Sea. Oiler.
Andersen, D. N.	Q. M. Painter.	Houlihan, Michael	2 C. F.
Andersen, Jerry	CH	Hoey, Frank	B'smith.
Andersen, derry. Avery, Charles. Burkhart, H. Bacchus, J. Barbee, William A. Bergman, A. Berneker, Ulrich J. Birdsall, D. D.	2 C. F. C. H. O. S.	Howard, Charles	Lds.
Bacchus J	O. S.	Hunt H	C. and C. Ch. Q. M. C. H.
Barbee, William A	T do .	Hughes, James S	С. Н.
Bergman, A	O. S.	Hunt, J. H	Sea.
Rirdgall D D	C H	Jonbeck Peter	Lds. 1 C. F.
Bleisner, O	O. S.	Johnson, Peter	()r.gr.
Boyle, Condy	O. S. Gr. M. C. H. O. S. 2 C. F.	Johnson, James M	Oiler.
Brauns, Charles	Mach. Lds.	Kenny Thomas	1 C.F. Sea.
Braciy, J. T.	C. H.	Kelly, Edward	C. H.
Brown, Warren	C. H. 2 C. F. Ch. B. M.	Kinsey, Frederick E	1 C F.
Brown Joseph	Ch. B. M.	Kilbride, John	C.H.
Brown, J. G	Gr. M. C. H.	Kondrup, J. J	C. H. W. O. S. O. S.
Broome, C. H	Pay. yeo.	Kobayashi, Edward	Ldg.
Burke, M. J.	Lds.	Kraft, Frederick	Qr.gr. C.stw.
Berneker, Urich J Birdsall, D. D Bleisner, O Boyle, Condy Brauns, Charles Briggeman, N. J Bradty, J. T Brown, Warren Brown, John Brown, John Brown, Joseph Brown, J. G Brome, C. H Burke, M. J Butts, Robert Burns, J. P Burns, W. H Carlsen, F. Carson, T Carson, T Carson, John Conning, O. S Carroll, G. H Chase, J. A. F Christie, W. H Coyl, A	Lds. W. O. C. 2 C. F. C. H.	Kilbride, John Kinkichi, F Kondrup, J. J Kobayashi, Edward Kraft, Frederick Kurz, Frederich Kuma, Moto Lacey, William Larsen, K Lavery, James F Lightfoot, W. H Lindstrom, C. G Little, Louis Lucy, Patrick Luftus, James Mahoney, Peter	W.R.S
Burns, W. H	C. H.	Lacey, William	W.R.S C.H.
Carlsen, F	Sea.	Larsen, K	Sea.
Carson, John	Sea. 1 C. F. C. H. C. H.	Lightfoot W. H	Oiler. Lds.
Conning, O. S	C. H.	Lindstrom, C. G	C. top.
Carroll, G. H.	C. H.	Little, Louis	Lds.
Christia W H	Lds. 2 C. F. Lds.	Lucy, Patrick	C. H. C. H. 1 C. F.
Coyn, A	Lds.	Mahoney, Peter	1 C. F.
Cott, George H	C. H. 1 C. F.	Maloney, John	Lds.
Cook J W	Lds.	Marshall, Harry	Qr. mr. Lds.
Christie, W. H. Coyn, A. Cott, George H. Colquhoun, William Cook, J. W. Collins, W. Collins, W. Conway, P. Carrin, John. Clausen R.	C. H.	Maloney, John Marshall, Harry Maramuchi, T Mallory, G. A. L Masterson, P. F McCool, William J McShehy, Samuel McAdays, John	1 C. F.
Conway, P	C. H. C. H.	Masterson, P. F	1 C. F. 1 C. F.
Clausen R	Cox. M. A. A.	McCool, William J	Oiler. Bayman.
Character T	C. H.	McAdams, John	W.T.
Craven, Thomas	Mach.	McAdams, John McGrath, Joseph McKenna, J. P McBride, John	W.T. 2 C.F.
Cutherell, E. J.	Mach. Q. M.	McKenna, J. P.	Cox. Oiler.
Daistrom, Charles	Sea.	McCarthy, Owen	W. T.
Dayton, F. G.	Qr. gr.	McCarrier, Samuel	W. T. C. H. C. H.
Craven, Thomas Cutherell, E. J Cullin, W. F Daistrom, Charles Dayton, F. G Dennison, William Dexter, John	Qr. gr. Qr. gr. Mach.	McGuinness, Thomas	C. H. C. H.
Donaldson, A	1 C. F.	Miller, D. M	W.T.
Downey, John	1 C. F. C. H.	Miller, T	W. T. C. F. C.
Downey, E	Lds.	Mitchell, Samuel K	Lds.
Dexter, John Donaldson, A Downey, John Downey, E Duncan, E Eagan, Patrick Ebert, R Eble, Charles Ellwood, Nicolas Eshikawa Masatara	Lds. 1 C. F.	McBride, John McCarrier, Samuel McGuinness, Thomas McWilliams, P Miller, D. M Miller, T Mitchell, Samuel K Miskey, M. C Mass, John Mori, Joseph Martensen, Soren	Eq. yeo. S. M. M.
Ebert, R	Lds.	Mori, Joseph	Sea,
Eble, Charles	Sea.	Martensen, Soren	Sea.
Eshikawa Masatara	C. H. Steward.	Murphy, William	Oiler. 1 C. F.
Eshikawa Masatara Finnegan, P Flynn, S. E Faster, Louis Freeze, John W Friedrich, Herman Fullham, Thomas Furlong, James Gabrielson, Niels M Gallacher, Thomas Gallops, James Grillen, James Grillen, James	C. H.	Marrensen, Soren Morgan, James Murphy, William Murray, John	Br. mkr.
Flynn, S. E.	Barber. Cox.	Neil, John Nelson, Andrew Nevis, John	B. M. Sea.
Freeze, John W	Sea.	Neison, Andrew	Sea.
Friedrich, Herman	O. S.	O'Brien, James	C. H. C. H.
Fullham, Thomas	C. H. W. T.	O'Donnell, Lawrence R	C. H. Sea.
Gabriegon Niels M	W. T.	Olsen, Kristian	Sea.
Gallacher, Thomas	Sea. 2 C. F.	Oshima, Joseph	Str. cok.
Gallops, James	1 C. F. 2 C. F.	O'Toole, John	Qr. Gr. 2 C. F. Lds.
Gorman M J	C. and C.	Oshimatan Okado	Lds.
Groon Dichard	Sea.	Packard, Elijah	Qr. gr. C. H.
Gulsen, Herman	C. of F. Lds.	Panter, George	С. Н.
Gustafson Charles	Lds.	Patterson, Martin	Cox. Sea.
Gulsen, Herman Gustafson, John P Gustafson, Charles Gustafson, Gustav Gilsinan, Thomas	S. corp. 1 C. F.	Peterson, Andrew	Lds.
Gilsinan, Thomas	C. and C.	Pfeiffer, Louis	Lds.
	Sea. C. M.	Ö'Donnell, Lawrence R Olsen, Kristian Olsen, Harry Oshima, Joseph O'Toole, John O'Neill, Patrick Oshimatsu, Okado Packard, Elijah Panter, George Patterson, Martin Peterson, Martin Peterson, Andrew Pfeiffer, Louis Pfeiffer, Louis Pfeiffer, Alfred Phillips, John J Pickernell, Frank	Oiler. 1 C. F.
Hamilton, John Harrison, J. J	Sea.	Pickernell, Frank	Mach.

List of men on board the U.S.S. Baltimore on date of arrival at Stockholm, Sweden, September 12, 1890—Continued.

Name.	Rank. Name.		Rank.
Paulsen, William F	Lds.	Apprentices	
Price George I.	T.da.		
Onigley Joseph	C.H.	Bechtle, J. J.	8. A.1 C
Quigley Joseph Quinlan, Thomas F Quinland, John J	Eng. yeo.	Bechtle, J. J. Bennett, W. F. Borstel, Frank Brigge, William A. Brisco, K. F. Brosnan, William J.	1 C. A.
Juinland, John J.	Lds.	Borstel, Frank.	1 C. A.
Rease William L.	Sea.	Brigge, William A	S. A. 2 C.
Readdy, William	C. H.	Brisco, K. F	1 C. A.
Riggin, C. W	B. M.	Brosnan, William J	S. A. 2C
Richardson, B. R	0.8.	Dutter, John	I U. A.
Riddick, Henry W	2 C. F.	Rurna William K	1 C: A
Robertson, James	2 C. F. 1 C. F.	Cass, Henry	1 C. A.
Rodgers, George W	1 C.F.	COOK	8 A IC
Rooney, John	C. H.	Cunningham, H	1 C. A.
Scott, Arthur	Sea.	Dang, H. J. S. Davis, Frederick W. Deleglise, Albert A.	1 C. A.
Seymour, James Semper, Charles B	Oiler.	Davis, Frederick W	S. A.2C
Semper, Charles B	Sea.	Deleglise, Albert A	S. A.2C
Sheehan. Daniel	Sea.	Dunn, Charles D	1 C. A.
hemelis, Adam	Sea.	Ennis, M. S.	S. A. 2C
Shields, James	S. cook. I C. F.	Greber, C. F Healey, Thomas W	8. A. 2C
Sheridan. James	I C.F.	Healey, Thomas W	S. A.1C
Shafer, Adam A	Mach.	Hedenger, I. B.	1 C. A.
Shea, John	С. Н.	Hill, Joseph Holdsworth, W. R	S.A.1C
Shimada, Harakichi	Stw.	Holdsworth, W. R.	S. A. 2 C
hinjiro, Nagano	Lds.	Honnors, Frank	S. A.2C
Siebermann, Frank	O.S.	Hodge, R. J. J. S	1 C. A.
oden, John	Sea.	Kenney, Joseph Lillis, J. A	1 C. A.
pain, Andrew	Mach.	Lillis, J. A.	S. A. 2 C
stewart, Alex. J	1 C. F.	Lucas, P.J	S. A.2C
staples, William	Bayman.	Lucas, P. J Leitner, W. J Mantz. Louis	S. A. 1 C
Stickney, Robert	Oiler.	Mantz, Louis	S.A.2C
Swanson, Adolph		McCormick, E McDonough, T. F McElwain, Edward N	S.A.1C
Smith, Frederick	Sea.	McDonough, T. F.	IC.A.
Sullivan, William	1 C. F. Mach.	Mool Hower B	1 C. A. 1 C. A.
Tabb, Paul K Taliaferro, G. D	Lds.	Moore, Archibald	1 C. A.
Thomas T A	C. H.	Monrie Charles D	8. A. 2 C
Thomas, J. A.	Lds.	Morris, Charles D Nickerson, Horace J	1 C. A.
Pivnan, John Pownsend, George W	Cox.	Noonan. John	S. A. 2 C
Foner. John F	C. H.	Olson N R	S. A. 1 C
Furnbull, George	C.H.	Olsen, N. B Parkinson, F. W	3 C.A.
Furnbull, William	C. H.	Powell, R. T	1 C. A.
Frefethen, F. J	Apoth.	Rogers. John F.	S. A 2 C
Pinney, James A	Cb. cook.	Ryan, George	1 C. A.
Wallace, Lee A		Raynolds W H	2 C. A.
Waterstreet, Elias	2 C. F.	Reynolds, W. H. Rogers, P. V.	I C. A.
Watanabe, Sadjiro	Lds.	Schopp ()tto	Bugler.
Watanobay, Talo	Lds.	Schopp, Otto	S. A. 1 C
Weisbogel, Albert	Cox.	Serini, J. O.	2 C.A.
Welch John F	Oiler.	Sheehan, J. A.	ĩ C. A.
Welch, John F Weiss, Charles L	Sea.	Smith. F. H	S. A. 1 C
Weissell, Adam	J. O. D.	Sterne Nick	8. A. 2 C
Whannell, G. D	S.gr.	Sterne, Nick Talbot, John W	2 C. A.
Whalen, J. E.	0.8.	Taylor, J. R	I C. A.
Whipkey, Allen	Armorer.	Wendel Charles O	1 C A
Wilson, Charles	Sea.	Werz, Charles F	S. A.20
Williams, John		Whidding, C. H.	S. A.2 C
Wilson, Robert	Qr. M.	Whidding, C. H. White, William E.	S. A. 1 C
Wilson, M. J	Sea.	Williams, F. D.	S, A.2 C
Wilkinson, Patrick H	Mach.	Wilbur, B. R.	1 C. A.
Williamson, William	B'smith.	Wightman James	S 4 2 C
Winter James		Williams, T. H.	S. A.2 C
Winter, James. Wetteland, Olaf	Cox.	Willis, C. C	1 C. A.
Yama, Moto	Lds.		- 0.22.
	2000		

INTERNATIONAL EXHIBITIONS; INTERNA-TIONAL CONFERENCES; MARITIME CANALS; PACIFIC CABLES; RAILROADS.



INTERNATIONAL EXHIBITIONS; INTERNATIONAL CONFERENCES; MARITIME CANALS; PACIFIC CABLES; RAILROADS.

THIRTY-SECOND CONGRESS, FIRST SESSION.

August 30, 1852.

[Senate Report No. 355.]

Mr. Mason made the following report:

The Committee on Foreign Relations, to whom has been referred the message of the President of the United States of the 27th July, 1852, communicating the correspondence between the Government of the United States and the Republic of Mexico, respecting the right of way across the Isthmus of Tehuantepec, have had the same under consideration, and after giving to the subject all the deliberation which

its importance demands, now respectfully report:

That the right of opening a communication, by artificial way, between the Atlantic and the Pacific, across the territory of Mexico at the Isthmus of Tehauntepec was conceded to Don José de Garay, a citizen of Mexico, on the 1st of March, 1842, by General Santa Ana, then President of Mexico, vested with the "supreme power." By his decree of that date, in the name of the "supreme government," "the honor and faith of the nation are pledged to maintain the projector, Don José de Garay, as well as any private individual or company succeeding or representing him, either natives or foreigners, in the undisturbed enjoyment of all the concessions granted."

In the following year, Gen. Nicholas Bravo having succeeded to the Presidency, the grant thus made by Santa Ana was recognized and affirmed by his decree of the 9th of February, 1843, pursuant to which orders were issued by the Government of Mexico to the department of Oaxaca and Vera Cruz to put Garay in possession of the lands conceded to him by the grant of 1842 and directing that every facility should be extended for the prosecution of the work. These decrees were executed by those departments, and Garay, the grantee, put in

actual possession of the lands conceded.

On the 6th October, 1843, Santa Ana, being restored to power, issued a further decree, reciting that the surveys by Garay being completed and the work about to commence, he ordered the governors of the departments of Oaxaca and Vera Cruz to furnish 300 convicts to be employed on the work, and by another decree of the 28th December, 1843, the time for its commencement, which was to expire on the 1st July, 1844, was extended to the 1st July, 1845.

The Government of Mexico during this period was subject to frequent revolutions. Santa Ana, driven from power in the winter of

1844, was succeeded for a short time by General Paredes, who in turn

yielded to Mariano de Salas as Dictator.

In the distracted and unsettled condition of the country, resulting from constant revolution, the grantee of the Tehuantepec way, fore-seeing that he would probably be disabled from commencing operations so early as July, 1845, procured the passage of a law by the Mexican Chamber of Deputies granting further time to commence the work. In the Senate this bill had a favorable report from the appropriate committee, and, it is not doubted, would have received the sanction of the Senate, when, by a sudden and violent popular convulsion, the entire Congress was dispersed.

In November, 1846, Salas, being still invested with supreme power as Dictator, promulgated a decree, which was a copy of the law thus accidentally frustrated, giving time until the 5th of November, 1848, for the commencement of the work, and the work was actually com-

menced prior to that date.

So much for the history of this grant whilst in the hands of the

original grantee, a citizen of Mexico.

During the years 1846-47 various contracts were entered into between Don José de Garay, the grantee, and Messrs. Manning and McIntosh, subjects of Great Britain, which were formally recognized and consummated at the City of Mexico on the 28th September, 1848, and by which the grant aforesaid, with all its privileges and incidents, was transferred to the latter.

On the 5th of February, 1849, this grant was assigned to Peter A. Hargous, a citizen of the United States, who subsequently entered into a contract to assign and transfer the same to certain citizens of New Orleans on terms intended to secure the necessary capital to execute the work. These transfers form part of the documents communicated.

In December, 1850, a party of engineers, with a competent equipment, was sent out from the United States, at great expense, by the American assignees, to complete the necessary surveys on the Isthmus, who continued so employed until the month of June following, when they were required to discontinue the work and to leave the country. This was effected through a letter from the governor of Tehuantepec, dated June 3, 1851, transmitting from the governor of Oaxaca an order from the minister of relations in Mexico, issued in pursuance of a law approved by the President of the Mexican Republic on the 22d May, 1851; by which law the grant to Garay was made null and yoid.

The committee have thus briefly traced this grant from its inception to its regular and legitimate transfer to its present holders, all of

whom, it is believed, are citizens of the United States.

It will be seen that by the terms of the grant and the decree of 1842, on which it was founded, the "honor and faith" of Mexico were pledged to maintain the grantee, "as well as any private individual or company succeeding or representing him, either natives or foreigners, in the undisturbed enjoyment of the concessions granted."

It will be seen that the period for commencing the work was extended from time to time by the Mexican Government until it expired on the 1st of July, 1845, under the circumstances detailed above. And it will be seen that as soon as the Government became once more established this single lapse was cured by the decree of Salas of November, 1846, giving two years' further time, until the 5th November, 1848, to commence the work, and that the work was actually commenced within this period.

The committee will now proceed to show that the Mexican Government has, subsequently to this decree of November, 1846, recognized, in the most unequivocal manner, the binding validity of this grant,

and admitted its obligation to abide by it.

In 1846-47 the assignment of the grant to Manning & McIntosh was duly notified to the Government of Mexico, and on their complaint President Herrera issued orders to the governors of Oaxaca and Vera Cruz to prevent the cutting of mahogany on the lands granted by any

other than the English company.

In 1847, while the treaty of peace was under negotiation, Mr. Trist, the commissioner on the part of the United States, by instruction from his Government, proposed a large money consideration to Mexico for a right of way across the Isthmus of Tehauntepec, and was answered "that Mexico could not treat on this subject because she had several years before made a grant to one of her own citizens, who had transferred his right, by authorization of the Mexican Government, to English subjects, of whose rights Mexico could not dispose."

After the assignment of the grant to the present American holders the minister of the United States in Mexico was instructed by his Government to apprize that of Mexico of the desire of this company to commence their work by a thorough survey of the isthmus; and the minister was further instructed to make overtures for a treaty securing to the enterprise the joint protection of the two Governments. The Mexican Government, as we learn from the correspondence of Mr. Letcher with the Mexican minister of foreign relations, "made not the slightest opposition in forwarding passports, and issued orders to the departments of Oaxaca and Vera Cruz, not only to avoid interposing any obstacles in their way, but, on the contrary, to afford them aid and hospitality." "The engineers," Mr. Letcher adds, "were accordingly sent, the ports thrown open for their supplies, and more than \$100,000 have been expended in surveys, opening roads, etc., besides a large sum of money in furnishing materials," etc.

This is not all. The Government of Mexico at once assented to enter into negotiations for the proposed treaty, and a convention for the joint protection of the work thus to be executed by American citizens, as assignees of the Garay grant, was concluded at Mexico in June, 1850, and sent to the United States. To this convention certain modifications being suggested by the Secretary of State at Washington, it was returned to our minister in Mexico, and the whole terminated by a new convention, signed at Mexico on the 25th of January, 1851, with the approval of President Herrera. This last convention was ratified by the Senate of the United States and returned to Mexico, and finally rejected by the Mexican Congress in April, 1852.

It should be remarked that by the twelfth article of this convention it was required that the holder of the Garay grant (then being Mr. Hargous, an American citizen) should file with the Mexican minister at Washington his written assent to the convention before it should be submitted to the Senate of the United States for ratification. This was accordingly done, on the 21st February, 1851, through the Secretary of State; but the Mexican minister declined to recognize it on the

ground of absence of instructions from his Government.

Previously, however, to the rejection of this convention by the Mexican Congress the law was passed, before adverted to, annulling the decree of Salas of November, 1846, and with it the Garay grant.

The rejection by Mexico of the convention concluded with the approbation of President Herrera, and subsequently ratified by the

Senate of the United States, however calculated to disturb the harmony of the relations between this Government and Mexico, had not the slightest effect upon the validity of the Garay grant, nor is it so pretended. On the contrary, the sole ground upon which Mexico rests for the vacation of this grant is that it was forfeited by failure to commence the work before the 1st July, 1845, and that the decree of Salas of November, 1846, which cured the alleged forfeiture, was null because he was in possession of supreme power by usurpation, or because he transcended the powers of a usurper. And this strange position is assumed by Mexico in the face of the repeated subsequent recognitions of its existence and validity which are hereinbefore recited. Respect for that Government alone restrains the committee from speaking of this position in the terms it would seem to require.

The Government of Salas was that of Dictator, vested with supreme power. It was acknowledged and submitted to by the people of Mexico and treated with, while it lasted, as the Government de facto. After having accomplished the purpose of creating a federal system, an election for members of Congress was held by his decree, which met pursuant thereto. To that Congress the Dictator communicated the decrees made by his Government ad interim, and with them this

very decree of November, 1846.

Amongst the decrees thus issued during the dictatorship of Salas are several of the character of general laws, not one of which was disaffirmed by Congress, nor was his authority ever questioned as the lawmaking power for the time being, until found convenient to do so for the purpose of annulling this grant after it became the property of

citizens of the United States.

The doctrine that the government de facto is the government responsible has been fully recognized by Mexico herself in the case of the dictatorship of Salas, as of those who preceded him. It is a principle of universal law governing the intercourse of nations with each other and with individuals, and this Government can not and ought not to treat with indifference a departure from it by Mexico in the present instance.

There is a remaining view of this question which the committee are not at liberty to disregard, and that is the embarrassment into which the relations of the two Governments is thrown by the conduct of Mexico in the negotiations which have taken place in reference to this

grant.

Two formal conventions, having for their basis this grant of a right of way, the value and importance of which to the people and Government of the United States was fully exposed to Mexico as the inducement on our part to negotiate, were actually signed at the City of Mexico by ministers duly empowered by their respective Governments, the last of which, formally ratified by the Senate, has been

rejected by the Mexican Congress.

The committee are aware that a refusal by one government to enter into treaty stipulations with another upon a prescribed subject should not as of course be considered an indication of unfriendly feeling; yet regarding the circumstances attending the protracted discussions which terminated in the second convention spoken of above, with its prompt rejection by the Congress of Mexico; regarding the fact fully made known to Mexico, that the interests of the Government and the citizens of the United States were deeply involved in obtaining the right of way proposed; and finally that it has been refused at last by the discourtesy of rejecting a treaty proffered by the United States,

and by the violent sacrifice of a valuable property belonging to citizens of the United States, for the preservation of which the "honor and faith" of Mexico were formally pledged, the committee can not but look on the occasion as one authorizing if not requiring this Government to review all of its existing relations with the Government of Mexico.

Certainly in what has passed there is to be found but little assurance of that friendly feeling on the part of that Republic which leads nations to connect themselves by treaty obligation, or which makes it desirable to continue such as have been previously contracted.

In the correspondence submitted with the message of the President the committee have seen with entire approbation that the executive department has been fully impressed with the importance of the questions involved in this controversy, and of the grave attitude they may assume should Mexico persevere in her refusal of the redress which is required at her hands.

In a letter from the Secretary of State to Señor Luis de la Rosa, the Mexican minister at Washington, dated April 30, 1851, after an able and comprehensive review of the whole question, the Secretary, referring to the probable rejection of the treaty by Mexico (which a letter of the Mexican minister led him to anticipate), concludes in the following amphatic towns:

following emphatic terms:

The President of the United States can not persuade himself that such a calamity as its rejection by Mexico now impends over the two countries.

Again, in a letter to Mr. La Vega, the successor to Señor La Rosa, of the 15th March, 1852, the Secretary of State says:

If, however, these hopes should prove to be unfounded, and the convention should not go into effect, this Government will feel itself compelled to take into consideration the measures which its duty to its own citizens may require it to adopt to protect their rights under a voluntary grant made by Mexico of the transit way across the isthmus. The Government of the United States can in no event be expected to abandon those rights, and ardently hopes that the Mexican Government will do justice to them in season.

And, finally, in view of the great importance of the occasion, and to avert if possible consequences of the magnitude of which to the two countries, while this question remains unsettled, none can be blind, the President of the United States addressed himself directly to the President of Mexico by a letter of the 19th of March, 1852, from which the committee quote as follows:

In addition to the motives I have urged for the speedy adjustment of this matter, I beg leave most earnestly to call the attention of Your Excellency to the probable difficulties that may grow up between the two nations should Mexico break her plighted faith in the grant to Garay. Our citizens, relying upon her good faith, have become interested in that grant; they have advanced large sums of money for the purpose of carrying out its objects; they have surveyed a route for a railroad and demonstrated the practicability of constructing it; and it is not possible that they should now be deprived of the privileges guaranteed by that grant and sustain the heavy losses that must ensue without appealing to their own Government for the enforcement of their rights. My anxious desire is to avoid the too probable consequences that must result from such an appeal. We can not, if we would, be indifferent to it. It is a duty which every government owes to its own citizens to protect their rights at home and abroad; and the consequences growing out of the disagreement of the proprietors of the Garay grant and the Government of Mexico are such as no true friend of this country or of Mexico can look upon with indifference.

The committee are fully prepared to sustain the executive department in the position assumed toward Mexico in the correspondence

here referred to, and conclude by recommending to the Senate the adoption of the following resolutions:

Resolved, As the judgment of the Senate, that in the present posture of the question on the grant of a right of way through the territory of Mexico at the Isthmus of Tehauntepec. conceded by that Republic to one of its citizens, and now the property of citizens of the United States, as the same is presented by the correspondence and documents accompanying the message of the President of the United States of the 27th July, 1852, it is not compatible with the dignity of this

Government to prosecute the subject further by negotiation.

2. Should the Government of Mexico propose a renewal of such negotiation, it should be acceded to only upon distinct propositions from Mexico not inconsistent with the demands made by this Government in reference to said grant.

3. That the Government of the United States stands committed to all of its

citizens to protect them in their rights, abroad as well as at home, within the sphere of its jurisdiction; and should Mexico, within a reasonable time, fail to reconsider her position concerning said grant, it will then become the duty of this Government to review all existing relations with that Republic, and to adopt such measures as will preserve the honor of the country and the rights of its citizens.

Since this report was prepared and ready to be submitted to the Senate the committee were apprised that a correspondence had taken place between Mr. Larrainzar, the Mexican minister to the United States, at Washington, and the Secretary of State, communicating to the Department further correspondence on the subject of the transit way at Tehuantepec; a note was accordingly addressed by the chairman of the committee to the Secretary of State, asking for copies of such correspondence.

The reply of the Secretary of State, with a supplementary note from the chief clerk of the Department communicating these papers, accompanies this report. They have been examined by the committee, but they find nothing in them requiring, in their opinion, any modification of their report or the resolutions accompanying it.

> DEPARTMENT OF STATE, Washington, August 30, 1852.

SIR: I have the honor to acknowledge the receipt of your letter of the 28th instant, and herewith transmit a copy of the correspondence between the Department and the Mexican minister respecting the documents relative to Tehuantepec, not included in the report of this Department to the President on the subject, and a translation of the papers which accompanied Mr. Larrainzar's note of the 26th instant, which, however, was not received at the Department until late on Friday, the 27th instant. It does not appear to me that the papers are of material importance, or should influence the deliberations of the committee or delay its report.

I have the honor to be, sir, very respectfully, your obedient servant,

DANL. WEBSTER.

Hon. J. M. MASON, Chairman of the Committee on Foreign Relations, Senate.

DEPARTMENT OF STATE, August 30, 1852.

My Dear Sir: The clerk who copied Mr. Webster's note to Mr. Larrainzar, of the 18th instant, having accidently mislaid the draft, it has been deemed advisable not to delay sending the other papers. That note, however, merely said that the only paper mentioned by Mr. Larrainzar as wanting in the correspondence as published, which could be found in the Department, or which had ever leen there, was the note of Mr. Buckingham with to Mr. Macedo, which was not deemed either very important or relevant to the subject. In order that the whole series may be complete, I will probably send you in the course of the day a copy of Mr. Webster's note to Mr. Larrainzar, above referred to.

Very respectfully, your obedient servant,

W. HUNTER, Chief Clerk,

Mr. Larrainzar to Mr. Webster.

[Translation.]

WASHINGTON, August 11, 1852.

The undersigned, envoy extraordinary and minister plenipotentiary of the Mexican Republic, has the honor to address the Hon. Daniel Webster, Secretary of State, the present communication, with the design of manifesting to him that in a publication which has been made by order of the Senate of the diplomatic correspondence and documents relating to the business of Tehuantepec, certain notes are not to be found which the undersigned believes of considerable importance to an exact understanding of the circumstances attending this serious affair.

The notes which are wanting in the published correspondence are as follows: One of Mr. Rosa to the Secretary of State, of the 1st of April, 1851; another of the minister of foreign relations of Mexico to Buckingham Smith, esq., of the 3d of August of same year; three from Mr. Letcher to the minister of relations of Mexico, of the 6th and 19th of January and the 7th of April of the present year, 1852, and three from said minister of relations to Mr. Letcher, of the 8th of January

ary and the 6th and 11th of last April.

If the Secretary of State, coinciding in opinion with the undersigned, should make the same estimate of their importance, it would afford him much satisfaction to see that his suggestion had obtained the object had in view.

The undersigned seizes this occasion to offer anew to the Secretary of State the

assurances of his very distinguished consideration.

MANUEL LARRAINZAR.

Mr. Larrainzar to Mr. Webster.

[Translation.]

WASHINGTON, August 19, 1852.

Sir: The undersigned, envoy extraordinary and minister plenipotentiary of the Mexican Republic, advised by the note of Hon. Daniel Webster, Secretary of State, of the inability to find among the papers of the Department the notes referred to in that which the undersigned had the honor to address him on the 11th instant, has directed copies to be made of all of said notes. The undersigned will be careful to remit them to the Secretary of State as soon as possible, in compliance with the indication which he was pleased to make.

In the meantime he has the greatest pleasure in renewing the assurances of his

very distinguished consideration.

MANUEL LARRAINZAR.

Mr. Larrainzar to Mr. Webster.

[Translation.]

WASHINGTON, August 26, 1852.

The undersigned, envoy extraordinary and minister plenipotentiary of the Mexican Republic, complying with his offer to the Hon. Daniel Webster, Secretary of State, in his official note of the 19th instant, has the honor to inclose copies of the eight notes to which special reference was made in the note of the 11th instant, which he had the honor to direct to him.

which he had the honor to direct to him.

The undersigned would be much gratified if the same publicity were given to these notes as that which the other documents, concerning the Tehuantepec business, received; that was the object of the aforementioned note, and he hopes that

the Secretary will find his indication founded in reason.

The undersigned always has the greatest satisfaction in renewing to the Secretary of State his very distinguished consideration.

MANUEL LARRAINZAR.

Mr. la Rosa to Mr. Webster.

[Translation.]

MEXICAN LEGATION IN THE UNITED STATES OF AMERICA, Washington, April 1, 1851.

The undersigned, envoy extraordinary and minister plenipotentiary of the Mexican Republic, has the honor to address the Secretary of State for the purpose of saying that until now he had conceived it to be his duty to urge, as he has urged, his request for a reply to his note of the 7th of last month relative to the Tehuan-tepec treaty. The Secretary of State has refused up to this time to give said reply, perhaps because he may have thought proper to treat upon this business directly with the Government of Mexico, or through some other channel. The undersigned therefore believes that it would no ionger be decorous in him to insist further in requesting the reply of the Secretary of State.

The undersigned will therefore henceforward preserve a complete silence upon this point, unless he shall find himself obliged to interrupt it because of some grave circumstance arising, or because of new instructions which he may receive from his Government. But he desires that this silence may not be attributed either to a forgetfulness of his duty, or much less to a desistance from what he has unfolded to the Secretary of State in his aforesaid note of the 7th ultimo.

The Government of Mexico has complied with all that good faith and its fidelity to the Government of the United States required from it in making the declarations and giving the explanations contained in the aforesaid note. For greater exactitude in its deliberations, it desired to know the views of the Government of the United States in regard thereto. If it should unfortunately happen that, from the long silence which the Secretary of State has thought proper to preserve with this legation upon this subject, any serious difficulty should sooner or later arise between the two Governments, neither the undersigned nor the Government of Mexico will be responsible for this result. The undersigned has endeavored to prevent it as far as it has been in his power, animated as he is, as well as his Government, with the liveliest desire that the relations of amity and good will, which happily exist between the two Republics, may be preserved unalterable.

The undersigned fears lest the reserve and prolonged silence of the Secretary of State toward this legation may be a fresh source of difficulty in Mexico in respect to the approval of the treaty by Congress. The Secretary of State will at once perceive that his silence may be interpreted in a thousand ways by the multitude of persons who, as deputies or senators, are to take part in the revision and exami-

nation of the treaty referred to.

The undersigned avails himself of this occasion to reiterate to the Secretary of State the assurances of his most distinguished consideration.

LUIS DE LA ROSA.

Hon. DANIEL WEBSTER, etc.

Mr. Macedo to Mr. Smith.

[Translation.]

NATIONAL PALACE, MEXICO, August 3, 1851.

The undersigned, minister of foreign relations, has the honor to state to Mr. Buckingham Smith, chargé d'affaires ad interim of the United States, that, according to information which the Government of Mexico has received. American vessels are quite frequently departing from New Orleans bound direct to Minatilan, notwithstanding that the latter is not an open port, and that the vice-consul in the said city of New Orleans has constantly refused to grant them the necessary documents. In this manner has sailed the pilot boat Helen Mar, which was brought from Guatzacoalcos to Vera Cruz, there condemned by the district judge to a fine of \$200 and the expenses arising from her being brought to said port; and her captain, James Silkirk, in order not to pay said fine abandoned the vessel in Vera Cruz, to which case the undersigned calls the attention of Mr. Buckingham Smith, protesting that Mexico is not responsible for any loss which may ensue to the owners of the Helen Mar because of the abandonment of her by her captain. In like manner the so-called Tehuantepec Railroad Company, in the dispatch of the schooner United States and the barks Zurahia and Almagre, whose captains, in conjunction with the secretary of said company, have made protests

against the Mexican vice-consul and the authorities of this Republic because they do not permit vessels to be freely cleared for Minatitlan, giving as a reason what they call the rights of the company (which this Government does not recognize), and that there is an American consul at Minatitlan; wherefore they affect to understand it to be and open port.

Furthermore, the aforesaid company, through its secretary, has published in the New Orleans newspapers proposals for the sale to it, in the present month and until the 1st day of next month, of two river steamboats, and for contracts in its

service of 500 laborers, who they say are to be employed in the Isthmus.

In view of these circumstances which may excite popular feeling upon this subject and compromise the honor of Mexico, the Government of the undersigned has resolved that there not being now any o casion for the American consul in Minatitlan, since in the present state of things the laws of this Republic do not permit foreign vessels to be admitted into Guatzacoalcos, the exequatur which on the 14th January of this year was granted on the appointment of Mr. John O. Robert as consul ad interim at said place is revoked and the permission subsequently granted by the Government of the undersigned on the 11th of February last for Mr. Alexander Pleasant to act as consular agent of the United States of America in said place, Minatitlan; and he hopes that the chargé d'affaires of the United States will be pleased to so inform those gentlemen directly.

The undersigned also hopes that Mr. Smith in communicating this measure to his Government will signify to it that there have been no other influences toward dictating it than pacific considerations and the desire to preserve due harmony between the two nations by removing a pretext of the violation of the laws of Mexico toward persons who, from their interests being ill understood, are induced to desire to violate them.

The undersigned reiterates to Mr. Smith the assurances of his distinguished consideration.

Mr. BUCKINGHAM SMITH. Chargé d'Affaires ad interim of the U.S.A.

Mr. Letcher to Mr. Ramirez.

[Translation.]

LEGATION OF THE UNITED STATES OF AMERICA. Mexico, January 6, 1852.

MARIANO MACEDO.

The undersigned, envoy extraordinary and minister plenipotentiary of the United States of America, has the honor to reassure Mr. Ramirez of his sincere consideration, and to avail himself of the earliest opportunity to manifest to his excellency, very respectfully, that having consented to open negotiations relative to the treaty of Tehuantepec—as has been done heretofore, with a view to its modification, seeing that the difficulties have been renewed as far as relates to its ratification by the Government of Mexico, and the conferences having been commenced concerning the projet which was presented on the 3d instant by Mr. Ramirez in substitution of the treaty as it now stands—the undersigned finds himself under present cir umstances bound by a proper consideration of his duty to indicate frankly and expressly to Mr. Ramirez that in truth it is absolutely and indispensably necessary and proper that the time specified for the ratification of the treaty, which expires on the 25th instant, should be prolonged in order that the business may be definitely arranged in the manner which its vast importance

In the opinion of the undersigned it is altogether impossible that, in the period of a few days, the articles of a treaty which embraces so many important interests

can be minutely arranged and modified.

All must acknowledge that the communication between the two great oceans, which it is the so'e object of the treaty to establish on just and equitable bases, is the grandest and most magnificent enterprise of the present century. If it should be accomplished a new era will dawn on the entire commercial world. All the civilized nations of the globe are more or less interested in the successful conclusion of this immense advancement, and Mexico more than any other.

It seems to the undersigned that the importance of the measure requires more time for mature deliberation; but he will not stop to speak of it for it speaks for itself. Therefore, considering the state of the negotiation and looking at it in all its aspects and bearings, he would add that he sincerely desires that without hesitation you will accede to the reasonable prorogation which the undersigned requests. He flatters himself at the same time that a very satisfactory arrangement can be made of all the difficulties before the expiration of the aforesaid prorogation. Time for deliberation and investigation can not prejudice anyone and

can only contribute to promote the great object aimed at.

Before closing this note the undersigned should remark that from the first interview had with your excellency up to this date your excellency has evinced in relation to this business the best disposition to proceed freely and openly and with enlightened liberality, and he has confidence that, animated by the same spirit, you will promptly and willingly agree that it is altogether proper that the negotiation should be concluded within the limited time above designated.

R. P. LETCHER.

Mr. Ramirez to Mr. Letcher.

[Translation.]

NATIONAL PALACE, MEXICO, January 8, 1852.

The undersigned, minister of foreign affairs, had the honor to receive the note of his excellency, Mr. R. P. Letcher, of the 6th of the present month, in which he acknowledges the receipt of the projet of a convention which was presented to him on the 3d instant as a substitute for that signed on the 25th of January of last year by his excellency and the minister plenipotentiary of the Republic for the opening of the communication by the way of the Isthmus of Tehuantepec.

In reference thereto, and remarking in relation to the impossibility of regulating conveniently so serious a business in the very few days which remain between this and the 25th, the time fixed for the ratification, his excellency desires that the time

should be extended to the same date of the coming month of June.

The undersigned comprehends fully the correctness and reason which exist for this extension, considering the state in which this business now is, and although the undersigned has had no intervention therein, yet, wishing to give a decided proof of his sincere desire to obviate all ground for complaint or occasion for difficulty with the Government of the United States, and also as a mark of consideration so merited by its worthy representative, signifies to him a disposition to consent to a prolongation of time sufficient for the negotiation which has been begun in relation to the aforesaid work, although he would limit it to the 8th day of next April, at which time it will be considered as terminated if the object contemplated should not be accomplished. This is as much as the undersigned can do with a view to preserve the peace and harmony of the two Republics, in despite of difficulties and embarrassments which Mr. Letcher will know how to appreciate.

The acquiescence given by the undersigned revives a condition agreed to by your excellency, and which he desires to see ratified in the reply to this note. That condition is that nothing shall be commenced by the Government of the United States or its citizens interested in opening the Isthmus of Tehuantepec in the state in which this business now is toward advancing the undertaking, not even under the pretext of collecting materials or making reconnaissances, for, in case of their so doing, the Government of Mexico reserves to itself the right to put a termination to the negotiation, in whatever state it may be, without prejudicing its right to act in conformity with the declarations and protests which were made to your

excellency in its note of the 13th of last December.

The undersigned renews to His Excellency Mr. Letcher the assurances of his high consideration.

J. Fernando Ramirez. His Excellen y R. P. Letcher, Envoy, etc., and Minister, etc., of the U. S. A.

Mr. Letcher to Mr. Ramirez.

[Translation.]

LEGATION OF UNITED STATES OF AMERICA, Mexico, January 19, 1852.

The undersigned, envoy extraordinary and minister plenipotentiary of the United States of America, had the honor to receive the note of His Excellency Mr. Ramirez, of the 8th instant, in reply to the one directed to him on the 6th, which proposed to extend until the 25th of June next the time for the ratification of the convention

of 25th of January last, relating to the opening the way of communication across the Isthmus of Tehuantepec, for reasons of public interest which are considered

conclusive.

Knowing Mr. Ramirez, as he does very well the strength of the reasons, and impelled by just principles of liberality and sound policy as far as relates to the important object which is embraced by the negotiation, he accedes to the extension of the time until the 8th of April next. The undersigned will refrain from using a single expression of displeasure or complaint in reference to the resolution adopted by his excellency, although, considering the circumstances attendant on this business, and with the greatest respect, he will say that the time granted by Mr. Ramirez is much less than the undersigned expected. He will assent, however, to the decision of his excellency, and, in consequence thereof, agrees that the period shall be continued until the 8th day of April, believing, however, that it should have been extended to a longer time. The undersigned has no just reason, not the most remote, to fear that during the pendency of negotiations any attempt will be made by the New Orleans company or any other to take possession of the Isthmus by force. But if, contrary to the expectations of the undersigned, such a thing should happen, Mr. Ramirez has reserved to himself in such a contingency the right to submit to Congress the convention of 25th of January, all of which he has manifested to the undersigned as well by words as in writing.

Embracing this occasion, etc.,

R. P. LETCHER.

His Excellency José F. RAMIREZ, Minister of Foreign Affairs.

Mr. Ramirez to Mr. Letcher.

[Translation.]

NATIONAL PALACE, MEXICO, April 6, 1852.

The undersigned, minister of foreign affairs, has received the note of His Excellency R. P. Letcher, envoy extraordinary and minister, etc., of the date of yesterday, and although diplomatic usage would justify him in returning, without replying to, a communication which does not refrain from personalities, yet he will keep it for the particular importance which it has in relation to other intentions, and without entering into the business deeply, will limit himself to a few observations the nature of which requires they should be known to the Government of the United

States through its minister.

The undersigned deems it necessary, although it may seem of little importance, to commence by fixing the character of the note in question. It appears that your excellency sent it as a reply to the circular with which was communicated to the diplomatic corps the report relative to the business of Tehuantepec published by this department; but this is not certainly the character with which it should come, for your excellency announced said note ever since the 22d of the anterior month—that is, before it, the circular, was printed, and even before it was concluded, and it was announced with the view of communicating officially the last instructions of your Government, in virtue of which the undersigned was advised that the negotiations then pending might be considered as put a stop to, referring to the treaty of Tehuantepec.

In a note again presented a few days subsequent thereto—asked for by the undersigned in his confidential letter of the 1st, and finally promised by your excellency in your reply of same day—you offer "to show your instructions again." The character has entirely changed in your note of yesterday, for your excellency, taking exception to his intentions, even enters into the question concerning the rights of Garay and the company of New Orleans—a thing which you never wished to do, notwithstanding the urgings of the undersigned, to whom you declared explicitly, and many times, that you did not wish to touch that question.

In the presence of these antecedents, the surprise manifested by Mr. Letcher is more and more incomprehensible at the publication of the report, and which he qualifies as "improper and unheard of in the annals of negotiations." It is not so, for the report relates to public acts, and in it no reference whatever is had to the negotiation. It is not, for the history of diplomacy presents an infinity of examples of publications made before and during the continuance of the same negotiations, even in relation to points therewith connected. It is not, for that relating to which reference is now made took place after your excellency declared the negotiation concluded. Finally, if it were, which it is not, the fault which is

now imputed belongs altogether to your excellency; for the undersigned, not forgetting for a moment the system of sincerity, frankness, and courtesy which he proposed to observe in all his conferences and relations, intimated to Mr. Letcher, in one held toward the close of February or Leginning of March, "that, seeing that your excel ency, your Government, and the directors of the company were completely deceived in regard to the rights of Garay, he had commenced writing a report on the subject, which he proposed to publish, to undeceive them and rectity the opinion of the people of the United States and of the whole world that they judget of Mexico by false and garbled information. The undersigned added "that its justice was so evident that he doubted not that your excellency would be persuaded of it whenever he shall have read it." To this announcement, made with the frankness and good faith which the words show. Mr. Letcher only replied that, in consideration of the business which occupied the undersigned, it would be proper to suspend the conferences for some days in order that the undersigned might have the repose and time necessary to conclude it, asking that it might be communicated as soon as it was printed. They thus separated; the conferences in effect were suspended for more than a week; they were not opened afterwards until, with the intention of making known to the undersigned that dispatches and instructions lately received directed your excellency to exact the approval of the treaty in the same terms in which it was agreed upon, and that if not approved the negotiation should be considered as terminated. In view of the above lacts, which Mr. Letcher will not have forgotten, the surprise is inconceivable which he manifests at the publication of the report, and the charge which he makes, founded thereon, is truly unheard of.

If the resolution which the undersigned has taken stood not in the way to prevent examination of the points treated of by Mr. Letcher, it would be very easy to destroy their foundations, for they (without making reference to those intended to have an impression on the imagination) are based entirely on a suppression of the principal facts, or on a supposition of others which have never existed, and do These, as well as others treated of by your excellency, will be not now exist. revealed and ratified at the proper time and in such manner that the Government of the United States will be convinced that the execution of the great work will not be frustrated by the unjust and capricious resistance of Mexico, but by the private interest of three or four persons.

Although the undersigned, in virtue of the position which he holds and his birth, considers that he has a right to have some influence in the deliberations of Congress in reference to any matter which may affect the interests of his country, he has not used it as he now assures Mr. Letcher, in whom he recognizes no right to take him to task for so doing; and he finds himself so far from fearing the light (the system adopted by your excellency of subjecting the will of the representatives of the people). that, leaving every one in tranquil possession of doing what he may think best, he now transmits to the Chamber of Deputies the treaty, and with it your note, without making any explanation whatever in regard to it, in this manner complying with the wishes of your excellency in this respect, as also putting an end to the negotiation.

The undersigned, feeling deeply the unexpected and disagreeable termination which His Excellency R. P. Letcher has given to a negotiation which gave so much promise, and not forgetting the affecting manifestations with which he has been honored and to which he has cordially corresponded, will not conclude this note without renewing to your excellency the assurances of his high consideration

and respect.

José Fernando Ramirez.

His Excellency R. P. LETCHER, Envoy Extraordinary and Minister Plenipotentiary, U. S. A.

Mr. Letcher to Mr. Ramirez,

[Translation.]

LEGATION OF THE UNITED STATES OF AMERICA, Mexico, April 7, 1852.

The undersigned, envoy extraordinary and minister plenipotentiary of the United States of America, had the honor last night to receive the note of Mr. Ramirez of yesterday, in reply to one transmitted to his excellency a few days

the undersigned truly regrets to see that his excellency has permitted himself to Le so excited in relation to it, and certainly without any just cause of personal provocation on the part of the undersigned. He has but a few words to say in reply. As an act of justice to himself, he declares, with great sincerity and truth, that in the transmission of said note he had no motive or design to wound the sensibility of his excellency nor of any other person whatever. He considered the circular (which Mr. Ramirez deemed proper to publish) premature and out of the regular routine of negotiations, and expressed his opinion with that freedom which his excellency has uniformly used with him. Was this cause of offense?

The undersigned has objected, decidedly, to the mode which Mr. Ramirez wished to adopt in manifesting his opposition to the Tehuantepec communication, and in

the same manner he still objects to it.

It is true, as his excellency observes, that he communicated to the undersigned his intention of making known to the world his views in relation to Garay's grant; but the undersigned supposed of course, that he would have done it in the way customary under actual circumstances. He expected to receive a copy of the report in the form of an official note, and supposed that afterwards it would be published. But certainly he never had the most remote idea that it would be given to the public at the time and in the manner which his excellency in fact chose.

On this point it was the intention of the undersigned to express his views frankly but respectfully. It was not by any means that he should be understood as arrogating to himself the right of reprimanding his excellency nor any other person. The undersigned will not forbear to say that a difference of opinion and the liberty of dissent which emanates from this difference of opinion ought not to be taken

as a reprimand.

His excellency seems to insinuate that the undersigned wishes in his note to give offense to Mexico. Such insinuation is entirely gratuitous and unjust. The undersigned desires the prosperity of Mexico. He anxiously desires to see her advancing, even to the highest point of elevation; his most ardent sympathies have been for a long time in her favor. The undersigned is the last man in the world who would say or do anything which would in the least degree offend or injure Mexico. If all were animated by the same sentiments which inspire the undersigned in relation to her, she would soon be seen elevated to a high eminence. The undersigned requests that he may be permitted to add that his favorable sentiments can not be changed by any injustice that it may be his lot to receive from any person.

His excellency complains that the undersigned always avoided a discussion of the merits of the concession of Garay. This is most assuredly the fact. But why? For the reason that the undersigned discovered the very first moment that he had the pleasure of knowing his excellency that he was very susceptible and that whoever might gain an advantage over him in an argument which his excellency had invited would incur his never-ending displeasure. Knowing very well, as did the undersigned, that if he permitted himself to enter into a discussion with his excellency while his excellency sustained the untenable side of the question, he consequently could not maintain it, the undersigned refused to be drawn into it; he believed it much more proper to leave his excellency to his own reflections

The undersigned avails himself of the present occasion to assure his excellency that, let him be in the enjoyment of prosperity or oppressed by adversity, whether in good or bad humor, he will always ardently desire the welfare and happiness of his excellency.

R. P. LETCHER.

Mr. Ramirez to Mr. Letcher.

[Translation.]

NATIONAL PALACE, MEXICO, April 11, 1852.

The undersigned, minister of foreign affairs, has the honor to acknowledge the receipt of a note of the ith instant from His Excellency R. P. Letcher, in reply to the note which was sent to him by the undersigned on the day previous. He laments equally with your excellency that in the power of feeling and the mode of seeing objects they should differ so widely, and that he finds even the explanations which occupy their attention clothed in the same dress as the anterior note and forming a part of the same proper system. There might not have been any design, as your excellency says, to wound the sensibility of any person; but the undersigned, who can only judge of the proper signification and strength of words

without searching for intentions, saw, and still sees, that those referred to transcended the rules; for although harsh and even disagreeable phrases, drawn out by confidence in the cause which is defended, may be excusable in the heat of discussion, they should, however, be so restrained as never to descend to personalities. The undersigned acknowledges that he has made use of the license permitted to him, although not to so great an extent as your excellency, while at the same time he has the consciousness that he has never once been wanting in that respect and consideration due to himself.

But dropping this question, concerning which the Government of the United States will form its judgment in view of its practice and the antecedents, the undersigned will only add a few lines to rectify certain ideas which Mr. Letcher has referred to, with a view to obviate the inferences which might be drawn from

a silence being observed thereon.

The undersigned is certain that he never gave to your excellency at any time reason to believe that the report which he published concerning the privilege of Garay should be communicated in the form of an official note previously to its publication. On the contrary, and in the most express and explicit manner, he said that it was his intention to publish it forthwith. It was exactly this manifestation which induced your excellency to suspend the conferences and to request that one of the first copies might be sent to you. That request is irreconcilable with any such belief. Moreover, the previous assent of your excellency was unnecessary, for the reason that a topic was treated of which had occupied the attention of the public press for years and had nothing to do with the negotiation. The proof of this assertion is found in the declarations which Mr. Letcher has

The proof of this assertion is found in the declarations which Mr. Letcher has ceased not to repeat and which he has reiterated in his last note. His excellency agrees that he never wished to open the discussion concerning the justice of the concession of Garay; and although he now explains his re-istance with a new personal offense which he unjustly commits against the undersigned, the truth is that his excellency was not thoroughly acquainted with the business, and, as is apparent, did not deem it necessary to inform himself of it entirely. In evidence of the first is the surprise which the sight of the deed of 20th of July, 1846, entered into between Garay and McIntosh, caused; and the second is clear from a certain declaration, which his excellency will not have forgotten to have made to the undersigned when, being pressed on this point, he said that he had already made up his opinion on this business and that nothing would induce him to change it. The report then treated of a question which, according to Mr. Letcher, was entirely extraneous and foreign to the negotiation. So likewise had the Congress considered it, when it only examined the propriety or impropriety of the treaty submitted for its deliberation, without taking the least account of the concession of Garay.

In the extremity to which the affair has arrived the undersigned thinks—not from his own too great delicacy, however—that it is proper to put a stop to the discussion, since it can not conduce to any useful or positive result, tending to the advancement of the great work so desired by the two Republics. That of Mexico, firm and persevering in her purpose, will apply her resources to its accomplishment without at the same time refusing foreign assistance, much less the efficacious cooperation of the United States and the other nations interested in maintaining and securing free and liberal transit over the new way of communication for the commerce of the whole world. The undersigned, in this manner, has addressed himself to the Government of Mr. Letcher, and he hopes that under less adverse auspices all difficulties will be removed, all interests reconciled, and that with them will be more firmly consolidated the bonds of friendship by which both

countries are united.

The undersigned expects that the measure proposed will meet the approbation of Mr. Letcher, so as to facilitate the arrangement of the other questions pending, and that he will receive it as a new mark of the consideration and respect which he offers to his excellency.

To His Excellency R. P. LETCHER, Envoy Extraordinary of the United States. Jose F. Ramirez.

Mr. Webster to Mr. Larrainzar.

DEPARTMENT OF STATE,
Washington, August 18, 1852.

The undersigned, Secretary of State of the United States, has the honor to acknowledge the receipt of the note of Mr. Larrainzar, envoy extraordinary and

minister plenipotentiary of the Mexican Republic, of the 11th instant, specifying some papers relative to the Tehuantepec negotiation as having been omitted in the pamphlet recently published by order of the Senate, and suggesting that they are important to a full understanding of the subject. In reply the undersigned has the honor to acquaint Mr. Larrainzar that the only paper he mentions which can be found on the files of the Department is the note of Mr. Buckingham Smith to the minister of foreign relations of Mexico, of the 3d of August, 1851. It is presumed that this was purposely omitted in the report of this Department to the President because it was not considered to have any direct connection with the subject. It merely expresses the wish of the Mexican Government that the acting consulate of the United States at Minatilian should be discontinued.

The correspondence between Mr. Letcher and the minister of foreign relations of the Mexican Republic, to which Mr. Larrainzar refers. has never been received at this Department; and if the note of Mr. La Rosa, of the 1st of April, 1851. was communicated it has been mislaid. The undersigned will consequently thank Mr. Larrainzar for a copy of these papers, and avails himself of this occasion to

offer him a renewed assurance of his very distinguished consideration.

DANL. WEBSTER.

Señor Don MANUEL LARRAINZAR, etc.

[See pp. .

FORTIETH CONGRESS, SECOND SESSION.

January 15, 1868.

[Senate Report No. 9.]

Mr. Sumner, from the Committee on Foreign Relations, submitted the following report:

A RESOLUTION providing for the representation of the United States at the International Maritime Exhibition, to be held at Havre.

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of the Navy be authorized to detail one or more officers of the navy, as he shall think best, to be present at the International Maritime Exposition, to be held at Havre, under the auspices of the French government, from the first of June to thirty-first of October of the present year, there to represent the United States, and otherwise to promote the interests of exhibitors from our country: Provided, That no expenditure shall accrue therefrom to the treasury, or to any public fund, nor shall any mileage or other expenses, or any additional compensation be paid to such persons as may be designated under authority of this resolution, nor shall any national or public vessel be employed to convey the officers so detailed to or from the place of such exhibition.

Approved March 12, 1868.

DEPARTMENT OF STATE, Washington, January 3, 1868.

Sir: I have the honor to submit to your consideration, and that of the committee over which you preside, the inclosed translation of a note of the 24th of November last, and a copy of the printed papers which accompanied it, in relation to an international maritime exhibition proposed to be held at Havre from the 1st of June to the 31st of October, 1868, under the patronage of the Emperor and the Prince Imperial of France. The note of M. Berthemy, under the instructions of his Government, conveys to that of the United States an invitation to participate in this exhibition and a request that commissioners may be appointed on the part of this Government to perfect the arrangements necessary for a representation;

and it also conveys a request that the printed papers may be published in this

country for the information of our citi ens.

In the absence of legal authority for adopting any of the measures above suggested it is left for Congress to signify its decision as to the acceptance of the courteous invitation thus officially communicated and as to the other measures involved in such acceptance. It is presumed that if Congress authorizes an acceptance of the invitation the limit set for the reception of applications from this country will be extended sufficiently to enable our citizens to be admitted as exhibitors. And it would probably be well, in the event of acceptance, to make it conditional upon an extension of that time to the 15th of February next.

I have the honor to be, sir, your obedient servant.

WILLIAM H. SEWARD.

Hon. CHARLES SUMNER.

Chairman of the Committee on Foreign Relations, Senate.

DEPARTMENT OF STATE. Washington, January 6, 1868,

Sir: With reference to my letter of the 4th instant concerning a proposed maritime exhibition at Havre, France, I have the honor to inform you that since that letter was written information has been received through our legation at Paris that the condit on which I suggested, in the event of an acceptance by authority of Congress of the invitation, has been anticipated by the directors of the exhibition. Corrected copies of the printed regulations have I een accordingly forwarded to the Department. in which the 15th of February next is named as the latest date for the reception of applications.

I have the honor to be, sir, your obedient servant,

WILLIAM H. SEWARD.

Hon. CHARLES SUMNER,

Chairman of the Committee on Foreign Relations, Senate.

[Translation.]

LEGATION OF FRANCE TO THE UNITED STATES. Washington, November 24, 1867.

The SECRETARY OF STATE: An International Maritime Exposition is to take place at Havre from the 1st of June to the 31st of October of the coming year. This enterprise, of which the Emperor and the Prince Imperial have designed to accept the patronage, is being organized with the cooperation of the municipal administration of the city, through the care of a general committee constituted under the honorary presidency of the senator, prefect of the Lower Seine. In giving notice of this projected exposition to your excellency I have the honor to inform you at the same time of the value which the committee would attach to seeing the Federal Government appoint commissioners who would place themselves in relations with it.

The work it is in view to carry out, in fact, is interesting to all maritime nations, and in this respect the United States are called upon to take therein so considerable a part that the expectation can not but le believed to be well founded that

they will give a favorable reception to the earnest wishes the expression whereof I am instructed by my Government to transmit to you.

I have the honor, in consequence, Mr. Secretary of State, to annex hereto two copies of the programme and of the regulations, as well as some forms of applications for admission, begging you to have the kindness to cause that official publicity to be given to these documents which comports with the usages of the Administration.

The information which they contain permits the communication of an exact statement of the object of the maritime exhibitions and of the principal condi-

tions of its organization.

Accept, Mr. Secretary of State, the assurances of my high consideration.

BERTHEMY.

Hon. WILLIAM H. SEWARD, etc.

Mr. Morris to Mr. Seward.

No. 51.]

UNITED STATES CONSULATE. Havre, November 25, 1867,

SIR: I have the honor to inform the Department that a Maritime International

Exhibition will be held at Havre next year.

The particular utility of the undertaking, strongly urged by the French press, has attracted the attention of the Imperial Government, and His Majesty the Emperor, foreseeing the benefits which will inevitably follow to French commerce from such an enterprise, has bestowed his powerful patronage upon the same, and the Government is now concerting measures to insure its success.

Inclosed I beg to transmit a number of pamphlets containing the rules of the

exhibition and other necessary data for exhibitors.

I likewise forward a plan of the exhibition itself, which is now being erected.

I have the honor to be, sir, very respectfully, your obedient servant,

DWIGHT MORRIS. United States Consul.

Hon. WILLIAM H. SEWARD, Secretary of State.

Mr. Morris to Mr. Seward.

No. 54.]

UNITED STATES CONSULATE. Havre, December 14, 1867.

Sir: I beg respectfully to refer to my dispatch No. 51, and have now the honor to transmit to the Department some additional information in relation to the Maritime International Exhibition of this city, showing the constantly increasing importance of the undertaking and the deep interest evinced in its success by the Imperial Government.

I learn from a reliable source that His Majesty the Emperor, the Empress, and the Prince Imperial will all furnish a number of prizes, in specie and otherwise,

for distribution to the exhibitors.

The ministers of marine and of commerce have likewise promised to allot a handsome sum to the enterprise, and the city of Havre will devote, it is said, 50,000 francs to the same.

The minister of marine will, besides, forward all the objects exhibited by his department at the late Paris exhibition, and the board of salvage will furnish as

large a number of its lifeboats as possible.

The number of French exhibitors already inscribed is no less than 2,000.

Belgium and Italy will likewise exhibit those articles pertaining to their marine which figured at the grand exposition, and have appointed special commissioners to reside at Havre.

The number of Belgian private exhibitors is 75; that of Italian exhibitors 90. Great Britain has promised to appoint a commissioner, and no less than 733

English exhibitors are now inscribed.

Sweden, Norway, and Denmark have already appointed commissioners, and their Governments have promised to send all the objects exhibited by their marine departments at the Paris Exhibition. The number of Swedish, Danish, and Norwegian exhibitors is 47.

Austria has already furnished 35 exhibitors, and, it is thought, will shortly ap-

point a special commissioner.

Prussia has appointed a commissioner and will exhibit its marine models, etc., which figured at Paris. The number of Prussian private exhibitors inscribed

The cities of Hamburg and Bremen have furnished 45 exhibitors.

The secondary States of Germany—Bavaria, Grand Duchy of Baden, etc.—will all appoint commissioners, and the number of their private exhibitors is 32.

Spain and Portugal have each appointed a commissioner, and the number of the former's private exhibitors is 17, and that of the latter country 9.

Brazil will exhibit the greater portion of the objects which were in the late Paris Exposition, has already appointed a commissioner, and possesses 30 private

From the French colonies there are now inscribed 10 exhibitors.

The city of Habana has furnished 2 exhibitors.

The Government of the Sandwich Islands and the Republic of Honduras have appointed special commissioners and will exhibit the articles which figured at the Paris Exhibition.

Greece has appointed a commissioner, and the number of its private exhibitors

inscribed is 2.

China and Japan will also exhibit their Paris Exhibition articles.

Persia and the Kingdom of Siam have appointed special commissioners, and it is anticipated that they will also send to the Havre Exhibition those articles which were exhibited by them at the late Paris Exhibition.

The United States, up to the present time, figure for 33 exhibitors.

The total number of private exhibitors from all countries already inscribed is

I will make it my duty to keep the Department advised of all that passes of interest connected with the Havre Exhibition.

I have the honor to be, sir, very respectfully, your obedient servant,

DWIGHT MORRIS. United States Consul.

Hon. WILLIAM H. SEWARD, Secretary of State.

The Havre International Maritime Exhibition, from the 1st of June, 1868, to the 31st of October.

[Under the patronage of His Majesty the Emperor and His Highness the Prince Imperial.]

The Maritime International Exhibition of Havre is organized under the patronage of the municipal administration of Havre and of a general consultative commission, of which M. le Sénateur-Préfet de la Seine Inférieure is honorary president. This commission is composed of the principal men in administration, trade, and

industry, of scientific and practical men, etc.

Honored with the flattering adhesions of LL, excellences le ministre de la marine et des colonies, le ministre des travaux publics, du commerce et de l'agriculture, le ministre des affaires étrangères, as well as those of the delegates of the foreign powers to the Universal Exhibition, the exhibition of Havre has been able to add to these great supporters the high patronage of H. M. the Emperor and that of H. H. the Prince Imperial, which was granted on the 24th of July, 1867,

and thus becomes for this undertaking the surest pledge of success.

The Maritime International Exhibition of 1868 includes 43 classes, figuring in the programme in the 5 following groups: 1 Navigation, goods, fishing, aqui-

culture, complemental classes.

NAVIGATION.

First class: Sailing vessels (models and plans). Second class: Steam vessels (models and plans).

Third class: Wood-built vessels and composite (wood and iron).

Fourth class: Iron-built vessels.

Fifth class: Boats of all descriptions.

Sixth class: Masting. Seventh class: Rigging. Eighth class: Sails.

Ninth class: Materials for fitting out ships. Tenth class: Preservation of ships.

Eleventh class: Furniture for vessels, steamers, yachts, etc. Twelfth class: Ship stores.

Thirteenth class: Sailors' outfit and chest. Fourteenth class: Instruments for navigation, steerage, light-houses, and signals.

Fifteenth class: Hygiene, ship's medicine chests and surgery.

Sixteenth class: Apparatus for loading, stowing, unloading, and transshipping. Seventeenth class: Lifeboats and other contrivances to save life and property; swimming apparatus: various objects for the use of bathers.

Eighteenth class: Paddle propellers.

The programme, the regulations, and the linear plan are forwarded on application. The Gazette or Report of the Maritime Exhibition is published every month. Subscription, 3 francs a year.

Nineteenth class: Screw propellers. Twentieth class: Engines, impellers.

Twenty-first class: Steam boilers and generators, fuel.

Twenty-second class: Various parts of machinery belonging to marine engines and accessories.

Twenty-third class: Various works relating to ports; ship's repairing.

GOODS.

Twenty-fourth class: Textiles-cotton, flax, hemp, etc., woo's, horsehair.

Twenty-fifth class: Colonial goods for consumption, home produce (similar.)

Twenty-sixth class: Corn, alimentary flours, fruits, and seeds.

Twenty-seventh class: Dyeing and chemical produce. Twenty-eighth class: Greasy and oily substances.
Twenty-ninth class: Woods, wrought or unwrought.
Thirtieth class: All kinds of metals.

Thirty-first class: Different sorts of goods and produce of industry for importa-tion or exportation.¹

Thirty-second class: Instruments and apparatus applied by trade to establish

the quality or discover the adulteration of goods.

Thirty-third class: Packing-produce used for manufacturing objects necessary to pack up goods.

FISHING.

Thirty-fourth class: Whale fishing, etc. Thirty-fifth class: Cod fishing, etc.

Thirty-sixth class: Coast fishing.

Thirty-seventh class: River fishing and pond fishing.

Thirty-eighth class: Specialty of tackle and instruments used in fishing; bait; salt: preparation of fish; models of establishments for preparing fish; fishermen and sailors' outfit and clothing.

AQUICULTURE.

Thirty-ninth class: Fresh and salt water.

COMPLEMENTAL CLASSES.

Fortieth class: Art annex, special naval art, art properly so called.

Forty-first class: Writings and books, maps and plans. Forty-second class: Competition and experiments.

Forty-third class: Nautical sports, representations, the plan and action of which will be taken from historical events or fabulous and legendary subjects.

A Maritime and International Congress will take place during the time of the

exhibition.

We must mention also the aquarium and the sea-water ponds, worthy of notice

with regard to their inhabitants and aquatic plants.

The exhibition will be held in closed galleries, which were begun in the month of July, 1867, on the grounds situated by the seashore opposite the roadstead on the Boulevard Impérial and the Boulevard François Ier. These grounds are granted by Government. It contains, besides the galleries, an inclosure in the open air; a floating annex will receive special exhibitions.

The whole surface of the exhibition is about 5 hectares, or 12 acres and 2 roods,

English measure, not including the annex above mentioned.

Objects admitted will be exhibited under the name of the inventor, builder, manufacturer, or author, etc., and generally of the producer or the manufacturer. They may also be exhibited under the name of the shipowner, merchant, holder,

collector, tradesman, or the consignee. Exhibitors will have the privilege to sell in the inclosure of the exhibition commodities manufactured on the spot. They will have also, in special galleries for this use, the right of letting customers taste their produce, and retailing goods similar to those exhibited. Nonexhibitors will not have this right.

The first 500 exhibitors will have free admission to the club belonging to the exhibition, serving as a place where exhibitors may meet and treat of their affairs.

¹ This class includes: Goods, machinery, parts of machinery and any produce whatever that can not be classed in the the maritime branch properly called, but which are used or may be used in navigation. The thirty-first class will thus make a special and most important group for importation and exportation.

The rewards adjudged to exhibitors, on the decision of the international jury, will consist of pecuniary gifts and objects of art, gold and silver medals, and honorable mentions. There will be several great prizes among the rewards.

The jury will begin their operations as soon as the exhibition opens. The rewards will be delivered in a grand assembly of the general commission on Sunday, 26th

of August, 1868.

The catalogue of the exhibition, entitled Catalogue officiel de l'Exposition Maritime Internationale, and the under title, Manuel de la Marine et du Commerce Maritime, has been ceded to MM. Marc Deffaux et Pache, rue de Rivoli, No. 164 à Paris. They will have no right to sell the book at more than 2 francs, nor require from exhibitors or the public more than 2 francs for each line of notice or advertisement.

The conditions for admission are indicated in the following articles of the

regulations:

ART. 4. A moderate charge is laid on exhibitors, on account of the expenses incurred by the erection of the building, and for watching, insuring, and keeping the same in order.

The tariffs of the exhibition are fixed as follows:

French measures and prices. English measures and prices. Closed galleries, 3 ft. 3 in. Closed galleries, le mètre super-.... Fr. 25 £1.00.0 square .. Closed galleries, le demi-mètre 15 Closed galleries, 1 ft. 71 in. Closed galleries, le quart de mèsquare.... 0.12.0Closed galleries, 91 inches 10 On inside wall, le mètre superfi-0.08.0square 10 On inside wall, 3 ft. 3 in. square. 0.08.0In open air, 3 ft. 3 in. square... In open air, le mètre superficiel... 0.04.05 With the right to erect sheds or With the right to erect sheds or set up kiosques..... 10 set up kiosques..... 0.08.0

Pictures and purely art productions will be admitted free of charge. Books, memoirs, etc., will have to pay 5 francs per exemplary or volume. The exhibition furnishes bookcases and furniture for the rooms where they are situated.

Private fixtures, show glass cases in the galleries, decorations, ornaments, and inscriptions, as well as Swiss cottages, kiosques, sheds in open air, and fancy buildings, are erected by exhibitors or their delegates, unless they instruct the exhibition to build them for their account.

The exhibition will provide shelves or stands for objects weighing 200 kilograms (4 hundredweight) and under at the rate of—

Le mètre			
Le demi-mètre		1 foot 71 inches for	
Le quart de mètre	2	1 foot 9½ inches for	0.1.8

ART. 5. An exhibitor paying over 100 francs will have a right during all the time of the exhibition to have his name, address, and profession posted up in one of the frames of publicity placed in the galleries and all around the inclosures without paying any supplementary charge. He also has a right, from this date, to a trade advertisement like the preceding one in the Gazette de l'Exposition, published once a month. Any exhibitor whose dues to the exhibition are under 100 francs may obtain the double advertisement just spoken of by paying a sum of 25 francs.

ART. 8, sec. 4. Objects coming from the Universal Exhibition of Paris will be received as soon as this exhibition closes, and be kept in their packing until the 1st

of March.

ART. 10. Foreign goods to be directed to MM. Mohr, Nicole & Co., general agents to the Maritime International Exhibition of Havre. Exhibitors will have to settle with them for the carriage, unpacking, and returning of the said goods. If any more information is required, ask for the regulations of the exhibition, Townhall, Havre.

ART. 12. Foreign goods will be received for temporary admission, and conse-

quently will not have to pay any custom-house dues.

The formula or model of demand for admission here inclosed, when filled up and signed, must be addressed: Au Directeur de l'Exposition, Hôtel de Ville, au Havre. Office, Cercle International du Champ de Mars à l'Exposition Universelle, Paris; open from 11 o'clock till 5.

The inclosed demand must be sent in before the 1st January, 1868. It will be

answered immediately.

Goods and product will be received upon the premises of the exhibition from the

1st of March until the 1st of May, 1868.

The railway companies in France on seeing the certificate of admission will allow a deduction of 50 per cent on objects and product destined for the Havre exhibition. The companies for transport by sea will also, for the most part, reduce their prices on freight.

JORET DES CLOSIÈRES. Le Président de la Commission d'Organisation, Sous-prefet du Havre, P. NICOLE.

Le Directeur de l'Exposition Maritime Internationale,

Demand of admission to the Havre International Maritime Exhibition, opening on the 1st of June and closing on the 31st of October, 1868.

27		
N.	0	 —.

M (1) ———, in case his demand of admission is received, will have a
right (2) — of the exhibition to a surface of (3) — , to exhibit
(4) ————. He will have to pay the sum of (5) ————, representing
the whole amount of charges, viz, the half during the week following the sending
of the certificate of admission, and the balance on the 15th of May, 1868.

He will consequently enjoy the privileges, rights, and advantages granted to

exhibitors.

Mr. -- moreover observes (6) Signature of exhibitor ———

(1) Name and Christian names, address, medals, and rewards obtained in former exhibitions and competition meetings.

(2) In the closed galleries, or on the inside wall of the galleries, or in the inclo-(Regulations of the exhibition, article 4.) sure in open air.

(3) Mention the number of square feet.

(4) Nature of the object or produce exhibited, its estimated value for the insurance which shall regard the exhibitions. (Regulations of the exhibition, article 4.)

(5) The amount.

(6) Mention if the exhibitor will furnish his own fixtures or have them made by the exhibition, or if he will use the shelves or stands mentioned in article 4 of the regulations.

International Marine Exhibition of Havre, under the patronage of His Majesty the Emperor and His Highness the Prince Imperial; opening June 1 and closing October 31, 1868.

RULES OF THE EXHIBITION.

ARTICLE 1. The Havre International Marine Exhibition will be opened on the 1st of June and closed on the 31st of October, 1868, and will include an indoor and

an outdoor department.

ART. 2. This exhibition is organized by the Society of the Havre Exhibition, under the patronage of His Majesty the Emperor Napoleon, His Highness the Prince Imperial, the Havre corporation, and also of a general consulting committee, of which the senateur-prefet of the Seine-inferieur is honorary president, which committee is composed of the leading gentlemen of French commerce, art, science, etc

ART. 3. The demands for admission must be addressed, before the 15th Février. 1868, to the directors of the Havre exhibition, or to the special delegates in France

ART. 4. A moderate charge will be made to exhibitors to cover the expenses of the building, keeping, insuring, etc. The rates are fixed as follows:

Indoor department—closed galleries: Per superficial yard	Francs.
Per superficial half yard	15
Per superficial quarter yard	10
On the inside wall, per superficial yard	10
	5
Per superficial yard	

Pictures and works of art will be admitted without charge. Books, pamphlets, etc., will be charged 5 francs per volume. The exhibition furnishes the necessary fixtures of the library.

Private spaces, glass cases, decorations, and inscriptions, as well as buildings in the outdoor department, must be erected by the exhibitors or their assignees; or the exhibition will undertake to erect them at the cost of the exhibitors.

The exhibition provides stands and supports for articles of 200 pounds weight or

less at the rate of-

Per yard 5
Per half yard 8
Per quarter yard 2

ART. 5. Every exhibitor paying charges exceeding 100 francs will have the right of advertising during the entire exhibition by frames and bills placed in the galleries and on the surrounding walls. The name, address, and business of every exhibitor in this category will be placed on these framed bills, and without any extra charge.

He has, besides, and from this date, right to an advertisement in the "Gazette

of the Exhibition," published every month.

Every exhibitor who pays less than one hundred francs may obtain the same advantages of publicity by paying twenty-five francs extra.

ART. 6. The same advantages will be given to members, besides the publicity to

which that membership entitles them.

ART. 7. The distribution of space made by the directors of the exhibition will be announced at a later date.

A plan of the whole exhibition will be sent free on application.

ART. 8. French and foreign productions will be received in the buildings of the exhibition from the first of Mar. h to the first of May. After which date they will be strictly refused, and the charges to which they are liable made by the exhibition.

Articles from the Paris exhibition will be received immediately after its closing,

and kept in their packages until the first of March.

ART. 9. From the first of March a catalogue will be made of the articles exhibited, indicating the spot they occupy in the buildings.

This catalogue will include two alphabetical indexes—one of the exhibitor and

one of the articles exhibited.

ART. 10. French and foreign productions intended for the exhibition must be addressed to Messrs. R. Mohr, Nicole & Co., general agents of the exhibition, with whom exhibitors must arrange for the carriage, unpacking, reshipping, &c.

Demands for reduced rates have been addressed to all companies of conveyance

by land and water.

ART. 11. The expense of package and carriage there and back must be borne by exhibitors.

ART, 12. Foreign goods will be entered as "admission temporaire," and consequently will be free from duty.

ART. 13. No article of any kind admitted to the exhibition can be reproduced, copied, or drawn without the exhibitor's permission.

The directors reserve to themselves the right of permitting drawings, photo-

graphs, &c., of the whole.

ART. 14. The constructors of machinery requiring water, gas, or steam, and those who intend having engines in motion, must give notice, when asking for admission, of the speed, and also of the motive power they will require. They will oblige by sending these particulars as soon as possible, in order that the committee may make the necessary arrangements on that special object.

ART. 15. Every facility will be given to exhibitors for the sale of their goods; they will not, however, be allowed to take them away before the close of the

exhibition.

The directors, as well as the members of the committee, will undertake to introduce the foreign exhibitors to any merchants or tradesmen of Havre, whose assistance for the sale of their goods they may think desirable.

ART. 16. A free admission ticket is delivered to every exhibitor, which is not transferable, and will be forfeited if lent or sold.

ART. 17. Exhibitors have the right of intrusting their goods to their own agents, subject to the approval of the directors.

Admission tickets will be delivered to these agents under the same restrictions as exhibitors.

An agent for exhibitors will not have more than one ticket, however many exhibitors he may represent.

ART, 18. During the exhibition international judges will be chosen for each class

of objects exhibited.

Trials and experiments will be made under the management of the judges. The results of these experiments will be published in the "Gazette of the Exhibition," The rewards given to exhibitors will consist of works of art, gold and silver

medals, money prizes, and honorable mentions.

ART. 19. Meetings and lectures will take place during the exhibition.

ART. 20. Immediately after the close of the exhibition exhibitors are bound to

commence the packing and removing of their goods, &c.

This removal must be completed before the first of December; after that date the goods, packages, and fittings not yet removed by exhibitors or their agents will be carried away and consigned to a public warehouse at the exhibitors' risk and expense. Objects not removed after the 30th of June from the above-mentioned warehouse will be sold by auction and the proceeds given to charities.

PROGRAMME.

NAVIGATION.

1. Sailing ships: Models and drawings of merchantmen, pilot boats, yachts, and rowing boats; models and drawings of the ancient navigation; Egyptian, Indian, Chinese, and Japanese navigation.

2. Steamers: Models and drawings of paddle and screw steamers, trans-Atlantic

steamers, steam yachts, river steamers, towing steamers and barges, tugs.

3. Wooden constructions: Models and drawings of the hulls of wooden ships and ships of wood and iron; various improvements in the building of ships of wood; specimens and models showing these improvements.

Fittings, tools, etc.; works for the building of wooden ships; specimens of decks,

deck houses, quarter-decks, &c.

4. Iron constructions: Models and drawings of iron ships; various improvements in the building; models and drawings of quarter-decks, etc.; fittings, tools, and building yards for iron ships.

5. Small boats: Canoes, whaleboats, pontoons for raising anchors, etc.

6. Masting: Models and drawings of wood and iron masts; different ways of joining; iron masts; telescope masts; movable masts; specimens of wooden masts. raw and finished state; specimens of iron masts.

7. Rigging: Hemp, iron, wire; brass wire rigging; hemp, flax, cotton, coir-yarn,

etc.; cables, ropes, and lines; blocks, oars, etc.

8. Sails: Linen, cotton, incombustible sails; sewing machines for making sails;

models and drawings of sails.

9. Ship fitting: Anchors, chains, capstans; apparatus for dropping and raising anchors; various pumps; rudders of all kinds; fittings in galvanized iron; rudders.

Distillatory apparatus; cooking apparatus; bread ovens.

10. Preservation of naval constructions: Paint, coatings, cements, for destroy-

ing insects; zinc and copper sheets.

Electro-chemicals for the preservation of iron ships; ventilation of the frame.

Various fittings for casing, pagging, and calking ships.

11. Furniture of ships, steamers, and yachts: Cabins, beds, washing stands, various fittings for the comfort of passengers; tables, various seats, beds, hammocks.

Carpets, oilcloth; looking-glasses, mirrors, gilt frames; heating apparatus; glass; table service, china, linen.

Table service for ships, steamers, and yachts; water-closets; special fittings for

emigrants.

12. Ships' stores: Preserved victuals of all kinds; ship bread; icing apparatus; apparatus for preserving water; demijohns; drinks and liquids; meats of all kindssalt, dry, cured, smoked, etc.; eggs; fish, salt or smoked; preserved vegetables; potatoes; fruits, dry or preserved.

13. Sailors' outfit: Ready-made clothes for sailors; waterproof clothes, fur and

skin; boots, trunks, and outfits for sea voyages.

14. Instruments of navigation, light-houses, and signals: Chronometers, compasses, charts, barometers, thermometers, astronomical instruments, logs, automatical and electric logs; sounding lines; sand boxes, loxodographs, hygrometers; lightning conductors.

Light-houses, beacons, signals, flags, buoys; telegraphs for light-houses, semaphores, watchhouses; colored lights, revolving lights, electric lights, whistles, fog bells, electric bells, engine bells; shells and rockets for signals, signal guns, telegraphic indicator of the position of the rudder; various buoys; electric buoys communicating with a semaphoric station.

15. Hygiene, pharmacy, and surgery: Marine hygiene, medicine chests, physic; preservation against and treatment of seasickness; mechanical apparatus for fractures.

Cleaning, ventilating, and disinfection of a ship. Preparations and apparatus for destroying vermin.

16. Loading, stowing, landing, transporting apparatus: Tents and shelters; movable and permanent cranes, steam cranes, etc.

17. Salvage apparatus, lifeboats, etc.; swimming and bathing apparatus: Models

and drawings of lifeboats.

Salvage clothes, waterproof clothes, life belts, schaphanders, nautilus, diving bell, submarine boats, submarine lights, salvage buoys, carriages for lifeboats, rafts, etc.

Guns and rockets.

Swimming apparatus, costumes, etc.

Models and drawings of swimming baths.

18. Paddle propellers: Models and drawings of paddles; feathering apparatus, various improvements.

19. Screw propellers: Various screw propellers: various propellers.

20. Moving powers of all kinds: Models and drawings of steam engines, ether, dilated air, gas, and electric motors.

21. Boilers, generators, combustibles: Models and plans of-Middle-pressure and high-pressure boilers.

Fireplaces, safety-valves, etc.

Coals, coke, etc.

Coal places, coal shipping and landing apparatus.

22. Various parts of marine engines and accessories: Condensers; air pumps;

taps and apparatus of injection; valves, etc.. employed with condensers, etc.
23. Ports and works; ships' repairs: Models, drawings, and plans of ports, harbors, piers, jetties, breakwaters, docks. wharfs, various drags; bridges, dock gates; pontoons, various apparatus for cleansing and repairing ships' bottoms.

GOODS.

24. Textile materials, cotton, hemp, flax, jute, etc.; wool, hair, etc.: Samples of

these goods; cotton seed; its use.

25. General produce: Raw and refined sugar, molasses, sirups, cocoas, coffees. teas, vanilla, cloves, cinnamon, ginger, wax, nutmeg, peppers, tobacco leaf, india rubber, gutta-percha, cauca leaf.

Beet-root sugar, molasses, native wax, and tobacco. Medical herbs: Rhubarb, sarsaparilla, ipecacuanha.

Barks: Quinine and others. Fruits: Senna, tamarind, etc.

Gums: Camphor, opium, copaphine, styrax, etc.

26. Corn, flours, fruits, and seeds.

27. Dye materials and chemical products.

28. Oils and greases.

29. Woods for building, cabinetmaking, etc.: Cocoanut, bamboos, etc.

30. Metals of all descriptions and metallic salts.

31. Hides and skins, bones, whalebone, horns, ivory, tortoise shell, mother-of-

32. Instruments and apparatuses used to state the quality and adulteration of

goods: Diagometers (oils), saccharometers, alcometers, scales, etc.
33. Packing: Packing of every description for export; wood and tin boxes; bags, barrels, cases, etc.

FISHING.

34. Whale and cachalot fishing: Models and drawings of ships.

35. Cod fishing.

36. Coast fishing: Bottom nets, drag fishing, oyster fishing.

Fishing boats for these purposes.

Making and preservation of the nets.

Floating nets: mackerel, herring, and sardines, etc. Permanent nets and fisheries, various proceedings.

37. River and pond fishing: Outfit for river and pond fishing; the angler's outfit: models and drawings of boats, punts, etc. 38. Specialties for fishing: Various baits.

Fishing and salting on board; various preparations; salts, casks, etc.

Models of works; drying, curing, salting. etc.; various fittings, clothes, etc.

AQUICULTURE.

39. Fresh and salt waters: Fittings and products: various systems of elevating; models of establishments for the spawning of fish and crustaceans.

COMPLEMENTARY CLASSES.

40. Arts: Special art; statues and busts of ships. Attributes and ornaments; decorative pictures. Models of ships in wood, ivory, metal, glass, etc.

Arts: Pictures, studies, water colors, drawings, engravings, lithographs, marine photographs, etc.

41. Books on any marine, fishing, or aquiculture subject.
42. Experiments and contests: Permanent contest between the French and foreign ships that will enter the port of Havre from the 1st of November, 1867, to the 31st October, 1868; steamers and sailing ships mixed; fishing smacks and boats, tugs, pilot boats.

These ships will be visited during that time by a special commission that will inspect the building of ships, their condition at the moment of their arrival (hull,

rigging, sails, etc.).

Rapidity of passage; books; hygiene and food of the sailors, passengers, and emigrants.

Prizes will be awarded to the shipowners, captains, mates, and sailors. Special experiments: Contests between the engineers and workingmen of various marine establishments.

F. DENNIS, Agent in Liverpool, 7 Grosvenor Buildings.

[See pp. 107, 135, 139, 141, 187, 402, 410, 415, 457.]

SPECIAL SESSION.

May 16, 1881.

[Senate Report No. 1.]

Mr. Burnside, from the Committee on Foreign Relations, submitted

the following report:

The Committee on Foreign Relations, to whom was referred the resolution on the construction of ship canals across the Isthmus of Darien, having had the same under consideration, report:

That the subject embraced in the resolution is one of great national importance and worthy of the most careful consideration.

lution is as follows:

Resolved, That the interests of the people of the United States of America, and the welfare and security of their Government, are so involved in the subject of the construction of ship canals and other ways for the transportation of seagoing vessels across the isthmus connecting North and South America that the Government of the United States, with the frankness which is due to all other peoples and governments, hereby asserts that it will insist that its consent is a necessary condition precedent to the execution of any such project, and also as to the rules and regulations under which other nations shall participate in the use of such canals or other ways, either in peace or in war.

This resolution was unanimously reported from the Committee on Foreign Relations by the Hon. William W. Eaton, its chairman, at the last session of the Senate, but was not acted upon for want of time, and was again brought before the Senate at this session by the Senator from Alabama, Mr. Morgan.

Certainly the United States can not remain silent and acquiescing spectators and see any European government or corporation monopolize the control of a great route for the transportation of ships across the

Isthmus of Darien. It is an affair of vital importance to those who dwell on the Atlantic and on the Pacific coasts, as well as to the people

of our whole country.

President Monroe, a wise and discreet man, announced in a public message to Congress, in December, 1823, that "the American continents, by the free and independent condition which they have assumed and maintained, are henceforth not to be considered subjects for future colonization by any European power." This declaration has since been known as the "Monroe doctrine," and whilst it does not directly apply to the construction of an interoceanic canal, the principle underlying it, which principle lies at the very foundation of our public welfare and safety, leads us to the announcement of the doctrine contained in this resolution.

This "Monroe doctrine" has received the public and official sanction of subsequent Presidents, as well as of a very large majority of the American people. At different times Great Britain has attempted to secure a foothold on the Isthmus of Darien, which it is now proposed to pierce with a canal, and each time she has been forced to abandon the project, so earnest and firm was the resistance offered by the Government of the United States. The Hon. Reverdy Johnson, who was the Attorney-General of President Taylor, thus alludes to one of these attempts to found a British colony on the Isthmus, in a letter addressed to the Hon. John M. Clayton December 30, 1853:

President Taylor, had firmly resolved, by all constitutional measures in his power, to prevent such aggression if any should be attempted, considering, as he did, that all the passages through the Isthmus should be kept free, to enable us to retain our possessions in the Pacific.

By the passage of this resolution we simply serve a notice to the world that, in the opinion of the Senate of the United States, the peace, safety, and general welfare of this Republic require that it should be consulted concerning and should have a voice in the management of any canal or other way for the transportation of seagoing vessels across the Isthmus of Darien.

We do not express any doubts as to our rights or suggest any reference of the subject to an international tribunal, because in this matter we are absolutely in the right. We simply ask nations who may directly or indirectly send their subjects, citizens, or capital to the Isthmus that they obtain the consent of the United States, as the power most directly interested, and that the rules and regulations for the government of this interoceanic highway be made acceptable to us, whose interests, in peace as in war, they will so materially affect.

Another reason for the passage of this resolution is that companies have been and others may be formed for the construction of projected routes which it is well known can never be successfully operated under their present plans, and in which the money subscribed will be totally lost. Yet many of the subscribers have undoubtedly been led to believe that the United States Government approved—indirectly, if not directly—the scheme in which they have invested. This should not be. No one, at home or abroad, should be beguiled into the investment of accumulated property or of hard earnings by the belief that the Government of the United States approved the project. A declaration by the Senate that the Government would insist that its consent is a necessary condition precedent to the execution of any such scheme would be a warning to investors not to take any stock in an unauthorized enterprise. The honor of the country will thus be

protected against accusations that its name led individuals in this and other lands to make investments which were to them total losses.

However we may be divided on political questions, and however we may wrangle on matters of domestic interest, the United States Senate has never failed, when a matter relating to foreign complications came before it involving the general welfare and peace of the country, to stand shoulder to shoulder and to assert what the public interests demanded.

We therefore recommend the passage of the resolution already published in this report.

[See pp. 105, 135, 139, 141, 187, 402, 410, 415, 457.]

FORTY-SEVENTH CONGRESS, FIRST SESSION.

April 4, 1882.

[Senate Report No. 368.]

Mr. Miller, of California, from the Committee on Foreign Relations,

submitted the following report:

The Committee on Foreign Relations submits the following report in regard to Senate bill No. 550, to incorporate the Maritime Canal Company of Nicaragua, and recommends certain amendments returned with the bill.

In considering this measure the committee has been impressed with the importance of the proposed work to our interests, national and

commercial.

For various reasons it is desirable that any canal determined upon should be located upon that route the nearest to our territory which

offers a practicable water transit.

The committee has been aided in its inquiries by the report and accompanying memorandum, made by a board appointed by the President in 1872, "to consider the subject of communication by canal between the waters of the Atlantic and Pacific oceans." The report was delayed while additional surveys were made, and was submitted February 7, 1876, and printed by order of the Senate (Forty-sixth Congress, first session, Ex. Doc. No. 15).

Regarding the Tehuantepec route, the nearest one to our coast line,

reference is made as follows:

It has a summit level of 754 feet, which it is proposed to reduce to 732 feet at

Tarifa. A harbor must be constructed on each coast.

The Coatzacoalcos River must be improved to the highest point of the river, which could be utilized for navigation about 35 miles. Its banks are low, and during freshets entirely overflowed. One hundred and forty-four miles of canal must be built, with 140 locks, of 10.4 feet lift, with a feeder 27½ miles long (requiring primarily to dam the water supply to an elevation of 86 feet), having four tunnels of an aggregate length of 3.6 miles.

There is some question as to the efficiency of the water supply. Assuming a common standard of dimensions of canals and locks and prices of materials and labor for all the routes, the estimated cost of this route would largely exceed that of the

Nicaragua route.

These existing conditions are manifestly such as to preclude hope for the construction of an efficient canal across that isthmus.

Nicaragua offers the next depression to the south of Tehuantepec, across the American isthmus, over which a canal could be constructed.

Of this route the board reported that it "possesses, both for the construction and maintenance of a canal, greater advantages, and

offers fewer difficulties from engineering, commercial, and economic points of view, than any one of the other routes shown to be practicable by surveys sufficiently in detail to enable a judgment to be formed of their relative merits."

Surveys made since the date of that report have shown the entire practicability of modifications in the line of location reviewed by the board, greatly simplifying the construction of the canal and rendering

it both more serviceable and less costly.

Considering that the highest elevation above tide water to be overcome is 110 feet; that the deepest cut between Lake Nicaragua and the Pacific is but 41.6 feet above the lake level; that generally the canal will be at the surface level of the country over which it passes, and will nowhere have an embankment exceeding 5 feet in height; that the lake with an area of 2,700 square miles, and a drainage basin of 8,000 square miles, forms the summit level and offers an inexhaustible supply of clear and pure water for the canal throughout: that in sections where lowlands might create sickness the excavation can be done by steam dredge, and the exposure of workmen be thus avoided; that at the summit level there will be 120 miles of open and free navigation, leaving but 53 miles to be canalized, and, finally, that in the rainy season vessels of 400 tons now steam across Nicaragua through the San Juan River and Lake Nicaragua to within 12 miles of the Pacific, the committee can find no serious difficulty in the construction of an entirely efficient and secure ship canal along the routes proposed, and believe it to be the best of all those proposed or existing, while there is no element of uncertainty or of experiment about it. Locks are in use in ship canals in this country and abroad with entire satisfaction and security. Canada has expended a large sum recently in the enlargement of the Welland Canal, which overcomes an elevation of 549 feet, and has cost altogether \$52,000,000. The largest lock in the world is at St. Marys Falls in Michigan, and no difficulties are experienced in its working.

The geographical situation of the Nicaragua route presents certain advantages over that of both Panama and Tehuantepec. It is central as respects the American Isthmus and will facilitate commerce equally well with both North and South American ports in the Pacific, while Tehuantepec is too far north for the south-coast carriage, and Panama is too far south for the best results to the North Pacific ports. In other words, a canal across Nicaragua would meet all the requirements of a ship transit over the American Isthmus for any trade, and would therefore remove all need for the construction of any other transit, an advantage not possessed by either the other routes named.

In point of distance between our Atlantic and Pacific ports Tehuantepec is the shortest route and Panama the longer of the proposed transits, the respective sailing distance between New York and San Francisco, as reported by Commodore J. C. P. De Krafft, hydrographer, Navy Department, being via Tehuantepec, 4,109 miles; via Nicaragua, 4,703 miles, and via Panama, 5,260 miles. The canal surveys over the isthmus at the different lines of transit are, respectively, 179 miles, 173 miles, and 45 miles. Adding these to the sailing distance it appears that the entire distances from New York to San Francisco, are as follows:

	Miles.
Via Tehuantepec	4,288
Via Nicaragua	4.876
Via Panama	

The distance from New Orleans to San Francisco is as follows:

	Miles.
Via Tehuantepec	3,089
Via Nicaragua	4, 158
Via Panama	4,692

Between New York and San Francisco the Tehuantepec route is therefore 588 miles nearer than the Nicaragua line, and 1,017 miles nearer than via Panama.

Between New Orleans and San Francisco the Tehuantepec route is 1,069 miles nearer that the Nicaragua route, and 1,603 miles nearer

than by way of Panama.

For the trade of Central America the Nicaragua line is central. while it has a direct route from our ports on the eastern side to the west coast of South America. A canal, then, will place New York 3,000 miles nearer to the ports of both the North and South Pacific than the coast of Europe, the ports of which now possess great advantages in geographical position for voyages around Cape Horn. In a period of more than thirty years of our occupation, the States of California and Oregon and Washington Territory have attained a population of but little over 1,100,000, while capable of supporting 30,000,000 of people if populated only in the same degree as some of the Middle States on the Atlantic side. Emigration has not been able to encounter the risks and expense of reaching that remote portion of our territory, and hence single States, more favorably situated and of comparatively small area, have gained more inhabitants in the past twenty vears than the present population of the entire Pacific slope. Notwithstanding this relative paucity of population, the agricultural products have become of great importance, the cereals for exportation produced in a single year having been 1,500,000,000 tons, while the means of transportation have been insufficient, and the consequent freight charges very high. Grain is now carried around Cape Horn on a voyage of nearly 14,000 miles.

The overland railways have been found incapable of transporting freight of this ordinary character across the continent, and therefore

do not afford the relief anticipated.

The Nicaragua Canal will not only become the much-needed outlet, but will also open a direct and easy line of emigration to the Pacific coast, one as inviting and but little more expensive than by line of steamers to New York. In viewing the subject of a ship transit over the isthmus, the political and commercial importance of the enterprise to this country, apart from a mere regard to the coast trade between our States on the two oceans, or to the transportation of the products of the Pacific slope to European markets, should be considered as conditions of grave import to arise from its completion.

Our population and wealth are much greater than the population and wealth of all the other nations of the two Americas combined, but our commercial relations with these people are of a secondary character. It is supposed a ship canal would greatly increase our commercial intercourse with the states of Central and South America,

with whom it will place us in much nearer association.

The canal will become an important channel for the transfer of our

naval forces

The canal company will require works for the repair of vessels, and can offer the Government every requisite for the repairs of its ships.

As before remarked, this scheme presents no experimental tests, while it imposes no obligations upon the Government until the canal

is constructed and open to the passage of all classes of mercantile vessels.

The committee is of opinion that the guaranty of 3 per cent net earnings provided for in the bill, and which is to become operative only after the completion of the canal and to continue thereafter for twenty years, will impose little, if any, pecuniary liability upon the Government.

The Suez Canal for 1881, it appears, earned gross receipts of \$9,900,052, with expenses for superintendence, repairs, and all costs attending operating the canal of \$876,751, being about 8.85 per cent of gross receipts.

The outlay for repairs in that canal involves a large amount of dredging yearly, both in the harbor of Port Said and within the canal itself,

and a seagoing dredge is employed outside of Port Said.

Under the provisions of the bill as amended, the United States might be called upon to make good receipts falling below \$3,250,000 yearly; but at \$2.50 per ton for all charges in the canal, 1,300,000 tons of traffic will secure the required amount, while the cereal productions of the Pacific coast for exportation are more than equal to that number of tons.

Oregon offers a vast field for wheat production, hardly yet opened to settlement, and a large increase in the area cultivated in that State will follow upon the opening of an economical route for transportation

to markets.

The importance of the undertaking and the reasons existing for having such a ship transit under the control of the Government of the United States invite careful consideration of the powers and duty of

Congress in the premises.

Copies of the statements made by the Provincial Interoceanic Canal Society, the report of the board referred to herein, and the letter of Commodore De Krafft relating to distances to the several proposed transit routes, are appended hereto.

STATEMENT RESPECTING THE MARITIME CANAL COMPANY OF NICARAGUA.

INTRODUCTORY REMARKS.

The course of events during the past quarter of a century has brought about changes in our affairs which to-day present questions of national policy in aspects greatly differing from those in which they were viewed by many of our people

within a very recent period.

The timid and hesitating policy that directed our foreign relations after the acquisition of California led to the acceptance of a treaty concerning Central America that to-day menaces our peace and welfare; it caused us to abandon claims to a territory which, now in the hands of another people, divides our possessions on the Pacific; it postponed the final settlement of grave questions connected with the interests, safety, and prestige of this country in the western world to the present time.

In the first years of our possession California was regarded as a country rich in the precious metals and as capable of maintaining a sparse population of herdsmen, but it rounded out our continental outlines on the Pacific side. It was thought that the construction of transcontinental communications wholly within our territory would inure to our benefit in a commercial sense and secure the safety of that part of our population in their isolation upon a distant western shore. But the necessities of our people and the growth of the agricultural interests of a territory so remote from the consumers of the world—the cereal products for exportation of the Pacific slope for the past year having amounted to about one and one-half million tons—have demonstrated the inadequacy of the existing means of transportation, and our fellow-citizens on that side of the continent are every-

where now petitioning Congress to promote the construction of a canal over Nicaragua that shall reduce by one-half their distance from the markets of the Atlantic and spare them the stormy seas of Cape Horn. The commerce of the world is awakened to the importance of such a communication over the American Isthmus between the east and the west, and that the capital of the world is interested is shown in the success of De Lesseps in securing money for his almost hopeless task at Panama.

It is now perceived that those great transcontinental roads, on which the public treasure and public lands have been lavished, have for their real mission carriage between the coasts and the interior; that when the ports on the Pacific are provided with suitable sea transportation, these great railway lines upon either side will be occupied in a traffic to supply the wants and interests of a great interior population and to distribute those products of human industry which human invention has rendered possible. There will be some point in the interior where the cost of carriage and the facilities offered will meet upon equal terms from either ocean and enter into earnest rivalry and competition.

Through transportation by rail, except for those articles of great value, demand-

ing rapid transit, will become, as indeed it has already largely become, a matter

of secondary consideration to our great trunk lines.

We are now fairly confronted with a vital and rapidly growing issue that should be met by our Government in a spirit of broad and enlightened statesmanship, while yet regarding those national interests which it is a first duty to study and

to promote.

That a canal will be constructed over some point of the Isthmus must be accepted as a fact, and, indeed, one is in the course of construction. Whether it is likely to succeed, in view of its costly design and of natural obstacles, will not affect the issue now presented for consideration; for in any event a canal is felt to be a necessity of the day, and the only question presented to us is, Under what aus-

pices shall it be constructed?

The interests of the United States naturally demand its location as near our coasts as circumstances make practicable, having in view the requirements of an efficient, safe, and sure transit for all classes of mercantile vessels of the world. This line of inquiry will embrace the conditions of navigation upon either side of the Isthmus at any proposed location for such a work, the cost of construction, and the consequent tax to arise upon commerce for its use. These conditions being satisfactorily met, that transit the nearest to our territory should interest us the most.

The United States caused surveys to be made of every known or supposed depression on the American Isthmus. It was ascertained that Tehuantepec, the first in order as regards proximity to us, offered insuperable obstacles to an efficient canal construction. Nicaragua comes next in order and was shown to possess all the requisites necessary for a ship canal. The Nicaragua route consequently is the

preferable one for us.

Shall the United States now secure such degree of control over that line of transit as may be thought necessary and is practicable? Those views which regarded that security for our Pacific coast arising from isolation, and from remanding hostile fleets to voyages around Cape Horn, will find expression now in the need

to secure control over the new route of approach.

The busy world demands an efficient transit and has no time for those delays needed in experiments. The inhabitants of the Pacific slope have settled down to the conviction that a canal offers to them a sure and secure ship transit and one attended with no risks or uncertainties, and are therefore united in their petitions for a canal. The interests and influences of this nation in the affairs of the western world seem to demand a prompt action in a manner that will command respect as promoting a practicable and reliable enterprise and one entirely removed from the influences of theoretical and tentative projects.

An American society holds a concession embrac ng all the conditions necessary to the construction of an economical and absolutely free highway for the commerce of the world, and the society is entirely in sympathy with those views that would make the enterprise as wholly national as in the nature of existing circumstances it can be made. Shall the opportunity be seized upon by the Government? Then the further question will present itself, To what extent will it be thought

necessary to secure control over the work itself?

The opportunity offers to the United States to assume actual control by taking a majority of the stock upon the same conditions that individual subscribers enjoy, and the proofs that will be submitted will show that an occasion is now presented the Government to aid in promoting commerce between the States by the establishment of the most important of all our lines of transportation without

actual pecuniary loss or risk. In this it differs from all our governmental aid hitherto given to lines of interior communication, in which many millions of money and still more millions of acres of land have been contributed. Yet, with all the lavish use of the public wealth, the means established are wholly insufficient and unequal to the demands for transportation coming from our Pacific States and The Committee on Commerce of this Congress are now considering measures for the improvement of the Mississippi River which involve many millions of absolute expenditure. The Government has abolished tolls on its canals around falls in our great interior lines of water communication in the interest of cheap carriage. It is not much the people of the Pacific coast are now asking to aid them in the prosecution of their enterprising and expansive growth, interests quite as justly calling for national attention as any now receiving it and as rightly demanding the most secure and economical outlet in the power of the Government to procure for them. They propose and expect to pay reasonable tolls for the use of this outlet.

It can not be doubted that the adoption by the Government of the measures proposed in the bill to incorporate the Maritime Canal Company of Nicaragua would greatly discourage efforts at construction elsewhere; and should it be determined to take part of the shares, such action would arrest work in other localities. The receipts from the Nicaragua Canal enterprise would pay much greater returns upon the investment than the United States are required to give in interest for money, and hence such a course would serve at once both the political and pecuniary interests of the Government through the prosecution of a safe isthmus policy at this juncture, while giving to the Pacific empire a means of transportation imperatively demanded by existing conditions.

STATEMENT OF THE PROVISIONAL INTEROCEANIC CANAL SOCIETY RESPECTING THE BILL BEFORE CONGRESS TO INCORPORATE THE MARITIME CANAL OF NICARAGUA.

To the honorable the members of the Senate Committee on Foreign Relations, House of Representatives Committee on Foreign Affairs:

In making such remarks as may assist in your inquiries concerning the provisions of the bill to incorporate the Maritime Canal Company of Nicaragua, it is considered important to briefly state upon what the promoters of the enterprise found a claim for the support of Congress.

In 1872 President Grant appointed a commission to consider the subject of communication by canal between the waters of the Atlantic and Pacific oceans. In 1879 the Senate called for the report of that commission. I have here a copy of it as then published, Forty-sixth Congress, second session, Ex. Doc. No. 15.

This commission, composed of the Chief of Engineers, the Superintendent of the

Coast Survey, and the Chief of the Bureau of Navigation, assembled in 1874, having been delayed in meeting, awaiting the completion of surveys. At the request of the commission a survey of the Panama line for a lock canal was made.

The care and zeal displayed are well indicated by that request and by a further one, that army engineers should be assigned to pass over two of the proposed routes for a personal examination. In accordance with this request, Major McFarland and Captain Heuer, of the Engineer Corps, and Prof. Henry Mitchell, of the Coast Survey, made the personal examination desired, accompanied by General Ammen and D. S. Walton, civil engineers.

After the completion of the surveys and personal examinations requested, the commission was enabled to make its report February 7, 1876. There were before the commission surveys and examinations of ten proposed routes.

Briefly, the report set forth that the Nicaragua route "possesses, both for the construction and maintenance of a canal, greater advantages and offers fewer difficulties, from engineering, commercial, and economic points of view, than any one of the other routes shown to be practicable by surveys sufficiently in detail to enable a judgment to be formed of their relative merits."

In presenting copies of the grant made by the Government of Nicaragua to the Provisional Interoceanic Canal Society, the translation of which was revised by the official translator at the Department of State, your attention is invited to the remarks of the commission, found on pages 7, 8, and 9 of its report, as it will be observed that the conditions of the grant coincide closely with the requirements, as outlined by the commission, of the privileges needed in the construction of a work of such magnitude as a ship canal.

"In 1876, at a meeting of a commission of scientific persons called by M. A. P. Blanchet, a letter from M. Ferdinand de Lesseps was read, in which he declared that he considered the project of a canal via Nicaragua as that which offered the greatest ease of execution and the greatest security of construction." (Revue de Deux Mondes, 1st August, 1879.)

It may not be irrelevant to give a brief statement of the manner in which the

grant was obtained.

In the winter of 1879-80, Admiral Ammen, upon various occasions, represented the difficulties encountered in the preliminary measures for the creation of a company to construct a ship canal across the territory of Nicaragua. Ascertaining that no grant had been obtained, which certainly was the first step necessary to such an organization, I undertook to form a provisional society, composed of responsible and influential persons, and obtained such number of signatures as appeared desirable.

Mr. A. G. Menocal, C. E., United States Navy, who had been engaged in the Government canal surveys on the Isthmus, went, as the representative of the society, to make proposals of a perfectly frank character to the Government of Nicaragua, meeting with such success as is shown in the concession obtained—a grant beyond question the most liberal and enlightened ever acted upon, or even considered, by any of the States whose territory includes portions of the American

The Congress of Nicaragua was convened in special session expressly to consider this grant, and it was confirmed in terms as negotiated with President Zavala, and embraces a period of one hundred and ninety-eight years from the day on which the canal is opened to traffic.

The grant provides that the canal locks shall not be less than 500 feet long and 28 feet deep. They will be made still longer.

It declares the canal and the ports at its entrances neutral, and that they shall remain so even when Nicaragua itself is engaged in war.

It is given solely for the benefit of a canal company to be organized by the society, but 6 per cent of the capital shares are to be set apart, one-fifth to reimburse Nicaragua its special expenditures in connection with the grant and the canal construction, and four-fifths to enable the society to conduct the surveys for final location, to organize the company, and to secure the assistance of capitalists. In addition, Nicaragua is to receive 5 per cent of the capital shares in consideration for grant of lands and rights connected with the concession, the lands amounting probably to 1,200,000 acres.

The State authorizes the company to overflow lands, to divert streams, to deposit excavations, to make use of lakes, islands, ports, roadsteads, and rivers, to adopt any route, and, in short, to do all things necessary, in the opinion of the com-

pany's engineers, to the construction of the canal.

Lands belonging to the State are given free, as are all materials found upon public lands; and private property is to be subject to use of the company upon the

same conditions the State would enjoy.

All materials imported for use of the company, and the vessels carrying them or employed by the company, are to be exempt from duties and charges, and the property of the company is declared free of all forms of taxation.

The State gives to the company the benefit of all port charges and dues upon

vessels traversing the canal.

It establishes a free zone along the canal for 100 yards in width on either side, and makes the ports at its entrances free. No papers or manifests of vessels passing through the canal are required, and the fullest liberty to discharge, reload, and repair vessels is given.

All the ports of Nicaragua, except Corinto, are made free of charge to vessels

anchoring in them while en route to traverse the canal.

Nicaragua has left nothing undone which lies in its power to encourage and

facilitate the construction of the canal.

The bill to incorporate the company has been prepared with a view to placing such safeguards about the enterprise as our national interests seem to require, and yet such as are not calculated to prevent a successful creation of a construction company. The society believes there is nothing in the bill not immediately apparent on its perusal. Having no objects except a perfectly frank business presentation, the aim has been to prepare a bill as simple in form as should be consistent with proper security for both the Government and the company, and having due recognition of the national character of the enterprise and the consequent rightful control of the United States over it.

The first question presenting itself relates to the powers of Congress to create a corporation; and then the exercise of this power in incorporating a company to do certain things outside of the limits of the United States and within the territory of an independent State. Consideration of the relation of the enterprise to the existing condition of affairs on the Isthmus will doubtless become necessary, and hence the appropriate reference of the bill to the committees charged with the foreign affairs of the Government.

The right of the United States to assist in the construction of a canal across the American Isthmus will not be questioned by other powers unless aid be given with a view to a preference or to an exclusive right in the use of the canal. This not being supposable, further reference to this branch of the subject would not be

proper.

It would seem absurd for me to discuss a question of such character in the presence of men whose knowledge and experience in the direction of the inquiry are so superior, but I may spare the committee some trouble in an examination as to the powers of Congress by presenting such points as I found some time since and which seen applicable.

As to the power of Congress to create a corporation, the decision of the Supreme Court delivered by Chief Justice Marshall in the case of McCulloch v. State of Maryland (Wheaton's Reports. 4 United States Supreme Court) is conclusive. It affirms the power of Congress to adopt any legitimate means for carrying into

execution its given powers. If conferring certain powers upon an associate body of men be the means employed for the execution of any of its powers, the act is constitutional.

The Chief Justice said:

"Let the end be legitimate, let it be within the scope of the Constitution, and all means which are appropriate, which are plainly adapted to that end, which are not prohibited, but consist with the letter and spirit of the Constitution, are con-

stitutional.

* * * "That a corporation must be considered as a means not less usual, not of higher dignity, not more requiring a particular specification than other means, has been sufficiently proved. If we look to the origin of corporations, to the manner in which they have been framed in the Government from which we have derived most of our legal principles and ideas, or to the uses to which they have been applied, we find no reason to suppose that a constitution omitting, and wisely omitting, to enumerate all the means for carrying into execution the great powers vested in government ought to have specified this. Had it been intended to grant this power as one which should be distinct and independent, to be exercised in any case whatever, it would have found a place among the enumerated powers of the But being considered merely as a means to be employed only for the purpose of carrying into execution the given powers, there could be no motive for particularly mentioning it.

"The power of creating a corporation is never used for its own sake, but for the purpose of effecting something else. No sufficient reason is, therefore, perceived why it may not pass as incidental to those powers which are expressly given, if it

be a direct mode of executing them."

In this opinion the Chief Justice refers to the fact that the First Congress had incorporated a bank, and also to the frequency with which the power had been exercised, and the general acquiescence by the people and by the legislative and judicial branches of the Government in the right to exercise such powers.

Mr. Hamilton, when Secretary of the Treasury, in a very able argument sustained this power of Congress to create a corporation as an inherent attribute of its sovereign powers. And President Madison, in 1815, while declining to approve an act for the incorporation of the United States Bank, admitted the powers of Congress to "create" corporations.

It is hardly necessary to accumulate authorities as to the constitutional powers

of Congress in this respect.

(2) The second of the two divisions of the question as to the powers of Congress relates to the incorporation of a company to do something beyond the territorial limits of the United States.

This view of the subject involves the treaty-making powers of the Government

and the grant made by Nicaragua for the construction of a ship canal

The treaty-making power is vested in the President and Senate. There is no limitation in the exercise of this power. Whatever the President may determine upon in negotiations with the governments of the world, if ratified by a two-thirds vote of the Senate, becomes the law in respect to the relation between the citizens of the nations parties to the treaty.

In the exercise of this power the United States and the Republic of Nicaragua entered into a treaty, dated June 21, 1867, and promulgated the 13th day of August,

1867.

Articles 14 to 19, both inclusive, relate to the right of transit between the Atlantic and Pacific oceans through the territory of Nicaragua and to the construction of

routes of communication between the two oceans.

Article 15 binds the United States to the protection of all such routes of communication, and in consideration of such protection, amongst other enumerated advantages to be enjoyed, is the right to the transportation of troops and munitions of war in their own vessels or otherwise, and of mails, without obstruction and free of charges or toils.

In article 17 the United States reserve the right to withdraw their protection to such routes of communication on six months' notice, if dissatisfied with discrimi-

nations made or with the exactions and toils imposed.

Article 18 provides that the guaranty and protection of the United States shall be held to be void until the holders of grants for construction of interoceanic routes shall recognize the concessions made by the treaty to the United States.

Article 19 limits the dividends to be enjoyed by any company constructing an interoceanic communication through the territory of Nicaragua.

In the grant made to the Provisional Interoceanic Canal Society for the Maritime

Canal Company of Nicaragua, articles 7, 8, 9, 10, and 50 of which relate to the organization of the company and specify how it may be organized, care was observed by the Government of Nicaragua to make all the stipulations correspond to the existing treaty, and to the observance of that treaty the canal company is fully committed.

This government is asked for grant of powers to do what the company needs to do within the territory of the United States; that is to say, to organize a company with power to issue stock and bonds in the United States, and to sue and be sued in the courts of the United States. The financial management of the company is to be, and will remain, in the United States, where large sums are also to be

expended for machinery and supplies.

The United States will become in some sense partners with Nicaragua in the proposed canal, and in the exercise of their treaty-making power have imposed conditions upon the parties now asking grant of incorporate powers, and in doing this have exercised powers analogous to those they are asked to exercise in granting a charter.

And in the exercise of this power they will act in harmony with, and in conformity to, the rights and powers already conferred by Nicaragua, the other party

to the treaty.

The object of that part of the treaty contained in the stated articles was to promote the construction of an interoceanic route of communication, and to protect the interests of the people of the United States in the use of such route.

The exercise of the treaty-making power is in effect legislation, and the fact that the advantages demanded by the United States are to be given in consideration of protection to be extended to the work does not affect this character of the power exercised in obtaining so much of control over a work to be executed in the terri-

tory of another people.

If Congress has not power to confer that corporate authority necessary to the construction of a canal which, while contemplated as a private undertaking, is by the terms of the treaty made free to the United States for certain uses, then it appears the President and Senate together can impose laws upon citizens, and, in a sense, appropriate private means vested in a work designed to advance the general welfare, while the President and Congress combined can not legislate in relation to the same matter so as to facilitate the operations of citizens designing to conform to the conditions of the treaty and to carry it into effect by constructing the very work which it was expected to promote.

The views expressed by Chief Justice Marshall and Mr. Hamilton apply with

equal force to the powers of Congress to regulate commerce between the States. The terms used in the Constitution in granting this power to Congress are "to regulate commerce with foreign nations and among the several States, and with

the Indian tribes.'

The right of Congress to do anything necessary to facilitate or advance the interests of our foreign commerce has not been doubted, and Congress continually adopts means not specified in the Constitution in the execution of that power.

Whatever it may do in respect to the foreign commerce of the nation, it may with the same degree of constitutional effect do in the regulation of commerce between States, its powers as to both being identical. If it can promote and advance the interests of one, it can do the same for the other.

The canal will become the thoroughfare of the greatest of all commerce between the States, embracing no less than all the water-carried trade between the Atlantic

and Pacific States.

It was in view of the importance of this aspect of the route that the treaty stipulations provide for free ports and free transit for commerce and limit the charges

for canal tolls.

To facilitate the construction of this highway for that commerce and to supplement the action of Nicaragua, already had in granting all the rights and privileges dependent upon her action to carry into effect the object and purpose of the treaty, would be to create a means for the execution of the powers of Congress in respect to commerce between the States.

It would be a legitimate and an appropriate means adapted to that end, is not

prohibited, and "consists in letter and spirit with the Constitution,"

Moreover, it would be the creation of a means for giving effect to an exercise of

the treaty-making power of the Government.

So much delay had occurred before the society was in condition to send an agent to Nicaragua and the length of time then required to secure a confirmation of the grant by the Nicaragua Congress, that the Count de Lesseps had already completed a financial arrangement in Paris, which, while ruinous in character, enabled him to secure subscriptions to the Panama Canal enterprise. That success has made it impracticable to secure money for a second enterprise unless presented

with some such encouragement as is proposed in this bill.

A guarantee of 3 per cent net gains upon the capital shares for twenty years would not appear to be a very great inducement for investors who must wait five or six years for this guarantee to become operative, but the moral support secured by such a guarantee is really worth more than the percentage pledged. It would give a promise of security and stimulate the projectors and investors in the American enterprise in a degree commensurate with the discouragement it would create for competing projects, and it is believed that the superior advantages of the Nicaragua route would become so manifest shortly after the commencement of work as to render the prosecution of work elsewhere quite impracticable.

It is considered by the society that the United States, in the assumption of the proposed guaranty, would incur no pecuniary liability even were the canal at

Panama to be completed.

To show on what foundation this opinion rests, the following statement is made: The maximum amount of the capital shares of the canal company is limited in the bill to \$100,000,000, and the allowance for all expenses of the company to \$1,000,000; consequently, \$4,000,000 must be earned yearly to secure the United

States from all liability.

The Secretary of the Treasury being furnished with a detailed statement of the receipts and expenditures of the canal company for any one year of the twenty, when it may be claimed the net earnings have not been 3 per cent, is to determine what amount, if any, the United States become responsible for under the pledge, and he will have the sworn statements of the company's officers, verified by the Government's representative in the board of directors.

The Secretary is also made the judge of when it may become necessary to reduce canal charges, as provided in the bill, to maintain the net earnings at the limita-

tion of 10 per cent upon the capital shares.

The provision that no principal of, or interest upon, any indebtedness of the company shall be paid out of canal earnings so as to leave the United States in any way responsible under the guarantee, it is thought, will not only protect the Government, but will also be a notice to all parties proposing to become creditors of the company.

Assuming that the capital stock will be \$100,000,000, which may happen, the United States in effect would promise that the earnings shall be \$4,000,000, or between \$3,000,000 and \$4,000,000, should the canal expenses not reach \$1,000,000.

The inquiry as to what the earnings probably would be should be answered; as also should one as to the sufficiency of \$1,000,000 to meet the yearly expenses of a

canal.

Mr. Nimmo, chief of the Bureau of Statistics in the Treasury, in answer to a resolution of a committee of the House of Representatives, prepared a valuable paper upon the probable tonnage then offering for passage through a ship canal across the American isthmus. It is the most authentic statement existing upon the subject. There are certain influences, not of a legitimate character, operating to divert certain of the carrying trades of which he treated to channels to which he in consequence assigned them, but of which influences he was not cognizant. Correcting his statement by transfers as papers necessary from this cause, and adding to it for the increase in grain production on the Pacific slope, his showing is made reliable for the trade existing at the present time, that might pass through a canal were there one in operation.

After making sundry deductions from the whole tonnage he found the amount to be 1,625,000 tons. The great increase in grain production on the Pacific side would now increase the amount by at least 600,000 tons, that item in his estimate being included in an amount of 550,000 tons (4), while the total grain produced for shipment in 1880 reached 1,500,000 tons. Considerable of the trade of the southwest coast of South America, credited by Mr. Nimmo to the route via Cape Horn, would seek a transit over the isthmus, if not too far north.

The carrying capacity of sailing vessels exceeds their registered tonnage by 30 to 40 per cent, and that of steamships also largely exceeds their registered tonnage.

These facts taken into account, the following results are obtained:

Amount of tonnage found by Mr. Nimmo	Tons. 1,625,000
Add for increase in grain products Add tonnage from coast of South America	600, 000 500, 000
Total registered tonnage	
Number of tons liable for tolls	3, 406, 250

To adopt 3,000,000 tons is, in all probability, an underestimate for the trade now awaiting a canal at Panama or Nicaragua.

A charge of \$2.50 per ton on that business would produce a gross amount of \$7,500,000, a sum greatly in excess of that required to secure 3 per cent on the

capital shares. There arises the possibility of the Panama Canal being completed. In such an

event what would probably be the trade of the Nicaragua Canal?

To rightly estimate for this condition the difficulty of approach for sailing vessels, the chief carriers of the great grain crops of California, to either entrance of the Panama Canal; the extreme difficulty of keeping open so deep a cut, the dangers in its navigation because necessarily very narrow, the delays for meeting vessels, and the greater distance from our Pacific ports are all points that should be considered, as they are influences that would favor Nicaragua; and there is still another greater advantage to its credit in the comparatively small tolls required to pay a return upon the smaller investment.

Estimate of the tonnage that would pass via Nicaragua Canal in preference to one in operation at Panama, as derived from Mr. Nimmo's tables, with an addition, as before, for the increase in the grain trade.

(1) Trade between New York and ports in Central America and our	Tons.
Pacific ports via Panama	60,735
(2) New York and San Francisco, via Cape Horn	120,682
Estimated increase	130,000
and half the Australian trade	270, 277
(4) Pacific ports and foreign ports in the Atlantic Ocean, including	•
	1,200,000
(5) European ports with Central America	52, 389
(6) European ports with New Zealand, via Cape Horn	237, 851
(7) European ports with British Columbia	22, 331
·	
Total tonnage	2,094,245
Add 25 per cent for carrying capacity	523, 561
Probable tonnage for tolls	2, 617, 806

At \$2.50 per ton canal charges the extreme amount of business requisite to earn the guaranteed 3 per cent net gains would be 1,600,000 tons, or an amount 1,000,000 tons less than shown in the above estimate.

From this it is manifest that the United States can not incur, in any event, a

serious liability through adopting the proposed measure.

In estimating the yearly expenses of the Nicaragua Canal, which, exclusive of locks, will be 511 miles long, no allowance will be made for dredging, as the water used throughout will be taken from the lake and no surface drainage admitted to deposit silt.

The anticipated cost of management, maintenance, and operating the canal is derived from the following data:

SUEZ CANAL.

This canal is 100.15 miles long, and cost \$92,273,907.	Vessels are towed through-
out. The yearly expenses are now about \$534,000.	
For the year 1878 they were \$889 505 made up as fol	lows.

For the year 1878 they were \$882,505, made up as follows:			
Expenses of general administration in Paris	58, 300	0.200	000
659,161 cubic yards dredging outside of and within the basin, Port Said Harbor, at 15 cents	98, 874 147, 438		
Other expenses for maintenance and repairs For operating the canal, including pay of employees, towage, towboats, materials, tools, lights, repairs, etc.		246,	312
	-	413,	
Total expenses		882, 246,	
Total expenses, exclusive of dredging		636,	193
This rate of expenditure for a canal 511 miles in length would	l amount	to:	
Expenses for 51½ miles of canal, no locks Add for 12 locks, at \$20,000 each Add for harbor expenses, same as at Suez		240,	
Total pro rata cost for Nicaragua Canal		666.	513

The large item charged for the Paris office is due in part to the heavy pensions, or life pays, fastened upon the company, Count de Lesseps alone receiving \$25,000 yearly for life. The cost of dredging is estimated, the rate per cubic meter not being given.

The total receipts of the Suez company for 1878 were \$7,315.000, and the expenditures for all purposes were therefore 11.4 per cent of gross receipts. With a proper rate of expenditure in the Paris office the total outlay would not have exceeded 10 per cent of receipts.

LOUISVILLE AND PORTLAND CANAL.

This canal, 2.15 miles long, has two locks 372 feet long and 80 feet wide, with 12 feet and 14 feet lifts. The locks were worked by hand in 1879; 3,168 vessels of all classes passed through the canal that year. A towboat, a dock, and steam dredges are maintained.

Expenses for 1879 were, less \$12,955.84 for dredging, \$30,928.47. This is at the rate of \$14,453 for 1 mile of canal and one lock. Taking \$12,000 for cost of operating the lock, there remains \$2,453 per mile for canal.

For 51½ miles of canal this makes Add for 12 locks, at \$20,000 each	
Corresponding amount for Nicaragua Canal Add for harbor expenses, same as at Suez	366, 330 98, 874

ST. MARYS FALLS CANAL,

Total for the expenses of Nicaragua Company.....

This canal is slightly over 1 mile in length. There are two locks to overcome the same elevation, one being the largest in the world. It is 515 feet in length, 80 feet wide, and 18 feet lift. Estimated yearly expense, \$25,000.

465, 204

Assuming the locks to cost \$20,000, the other expenses would be \$5,000 per mile. For the Nicaragua Canal these rates give:

	\$257,500
12 locks, at \$20,000 each	240,000
Harbors, as before	98,874

Total for expenses of the Nicaragua Company...... 596, 374

NORTH SEA CANAL.

This canal is 16 miles in length and from 130 to 400 feet in width. The level is below that of the sea. There are two sets of locks of large dimensions and an artificial harbor, constructed under great difficulties. The depth, originally made 23 feet, is to be increased to 26 feet by 1884. In 1879 vessels of 23 feet 4 inches draft passed through the canal. The cost of the work was 27,000,000 florins, or

From November, 1877, to August, 1879, 4,862 vessels passed through the canal. The expenses for operating it in 1877, the only year for which a report has been

found, amounted to only \$75,569.45.

As there are two sets of locks and 16 miles of canal, there are 8 miles of canal to each lock lift. In Nicaragua, as now projected, there will be something over 4

miles of canal to each lift.

Assuming, as before, each set of locks to cost yearly \$20,000, there remains but \$35,000 to pay all the other expenses of 16 miles of canal and of an artificial harbor in the North Sea. Charging it all to the canal makes the expenses per mile \$2,185. Then-

Expenses of 51½ miles canal, at \$2,185 per mile, is	\$112,528
Add for 12 locks, at \$20,000 each	240,000
Add for harbor expenses, as before	98,874

Total for Nicaragua Canal, pro rata 451, 502

Strictly the item for harbor expenses should have been omitted, as such an expenditure is included in the other amounts.

DES MOINES CANAL,

This canal is 7.6 miles long, has three locks suitable for the largest steamers on that river, and they are subject to overflow in freshets. The dredging is quite large in amount, yet the yearly expenses are usually about \$30,000.

These results grouped are as follows:

Expenses for Nicaragua Canal, as derived from the Suez Canal expenditures	
Louisville and Portland Canal expenditures St. Marys Falls Canal expenditures	465,204
North Sea Canal expenditures	

The average yearly expenditures thus shown amount to _____ 544,873

From the foregoing figures it would appear that gross earnings amounting to \$3,545,000 would give a net gain of 3 per cent on \$100,000,000 capital, and the total tonnage necessary to yield that amount would be but 1.418.000 tons.

On such a business the expenses would be about 15 per cent of receipts, but a much larger tonnage would involve but little additional cost, as the maintenance, management, and working of the canal, and offices would be much the same, save in the one item of towage-not a heavy expense.

It is thus quite evident that \$1,000,000 will more than meet the yearly expendi-

tures of the Nicaragua Canal Company.

Certainly that amount is in excess of what would be required for a tonnage so small as to render the United States in any degree liable in respect of the proposed

guarantee.

The purpose in the preparation of the bill, as before stated, has been to make the canal enterprise as national in character as is consistent with the conditions of the grant, and the bill provides that the company shall recognize in advance all those rights of control the Government may at any time secure by treaty or otherwise. The conditions, so far as the company is concerned, upon which the Government, for national reasons, may take temporary possession of the canal, are distinctly set forth in the bill.

The Government is to appoint one of the directors. Nicaragua also appoints

one, thus leaving nine to be elected.

The shares which Nicaragua is to have are to be 5 per cent of the whole number,

and are to be nontransferable.

Should it become the purpose of Congress to secure for the United States a further controlling influence over the work, the object can be effected by directing subscriptions to be made for such number of shares as is thought necessary, the Government to pay the same as individual subscribers and to enjoy pro rata all the

benefits of the grant. As Nicaragua is to have 5 per cent of the shares, should the United States take forty-six one-hundredths of them, the two Governments would together have the majority of the stock; but as two of the directors are appointed by them, their shares in the elections for directors should be counted in the ratio of

nine-elevenths of the whole number.

Should the interest taken by the United States be confined to that limit, it is believed the people of Nicaragua would be pleased. The grant can not be transferred to any foreign government, but there is no prohibition of a partnership with

one-no limitation upon the stock subscriptions.

Having explained so much of the purposes and provisions of this bill, as viewed by the promoters of the canal enterprise, there remains for mention the estimated costs of the work and the basis upon which it is proposed to organize a company.

In the surveys of the canal route made by direction of this Government, estimates were based upon the lines then measured, and the total amounted to \$62,577,718, including \$10,952,057 for improvement of harbors and river.

By direction of the society addition surveys have been made, which, in conjunction with surveys made for the Nicaragua Government between the San Juan River and Grey Town, have enabled Mr. Menocal to relocate portions of the line

with results highly advantageous.

The adoption of the Rio Lajas line or route between the lake and Pacific Ocean in lieu of that by the Rio del Medio, whereby the maximum cut becomes only 41 feet above the lake or canal level, has reduced the cost of that section of the canal by no less a sum than \$7,052,721. The route was well known before, but the entire practicability of turning the head waters of the Rio Grande had not been ascer-

tained until the society had the surveys made.

In lieu of several dams and small canals around them, along the San Juan River, one large dam has been located upon superior foundation above the mouth of the San Carlos River. This dam will hold the lake and river at one level, making of the latter, in fact, an estuary of the former, and creating for a distance of 120 miles an uninterrupted line of free navigation, in which the very largest steamships may proceed with full steam power. The waters of the lake will be at the highwater level of 1878. This change has largely reduced the estimated cost of improvements both in the river and lake. After passing along the river valley to a point about 6 miles below the dam, the new canal line abandons the river in favor of a direct route to Grey Town, thus shortening the distance 7.4 miles. The aggregate of estimated cost of the work between the lake and Caribbean Sea is reduced by these various changes \$4,614,158, making the total reductions amount to \$11,666,879 and the resulting estimated cost \$40,910,839.

It is to be remarked that these estimates are based upon measurements, and any changes in location due to more extended examinations could hardly result otherwise than to diminish the amount of work. It is also important as a factor in the estimates that at least half of the 36 miles between Greytown and the dam across

the San Juan River can be dug with dredges.

Assuming the sum of \$41,000,000 as the estimated cost, the final outlay can hardly

1	baccou as follows.	
	Estimated cost	\$41,000,000
	Add 50 per cent for engineering contingencies	20, 500, 000 8, 200, 000
•		
	Estimated amount, contingencies included	69,700,000
	Add 6 per cent interest during construction, say five payments, time	
	six years, to be allowed in stock settlements	12, 964, 200
	Nicaragua's shares	4, 644, 056
-	Surveys, expenses of organization of company, and Government out-	
	lays	5, 572, 868
	m + 1	00 004 404
	Total amount	92, 881, 124

This is probably an overestimate. Should the capital shares not exceed \$75,000,000, subscribers would be secured 4 per cent by the Government guaranty for twenty

years after the canal should be completed.

The construction of this canal presents no serious difficulties. There is nothing new, untried, or experimental in or about it. Such canals are in daily use, on a less extended scale, and the locks are worked without danger to vessels. neers of high repute, such as Ashbel Welch, president of the Society of Engineers, New York; General Weitzel, United States Engineers; Mr. E. A. Douglass, engineer, and others, testify to the facility, celerity, ease, and security with which, by aid of steam power, the largest ships can be passed through locks, and lifts of 30 feet are not considered extreme.

In a paper read before the Society of Civil Engineers in New York in August.

1880, Mr. Welch said:

"My present object is to point out how a ship-canal lock of the most extreme dimension and of 30 feet lift can be made, into and out of which ships of the largest size can be hauled quickly and in which they can be held and handled safely and all the operations of the lock performed surely and rapidly by a steam engine on the wall.

"This mighty agent, in its present matured state so powerful, so controllable, so instantaneously and so exactly obedient to human command, can, with suitable appliances, which I propose to point out, be made to perform all the haulings and holdings of the ships, and all the openings and shuttings of the gates and valves, safely, certainly, and quickly.

"Water power can not so well be applied directly, for its changes are not quick

enough, but it may be applied through hydraulic engines with great advantage.

"It appears, from the advice they have given, that some of the most eminent engineers of the world have not thought of this plan, or, at any rate, have not thought it out, and that for want of considering what can be done and knowing what has been successfully done already, they, as well as most persons interested in ship navigation, including naval officers consider locks for ship canals absolutely inadmissible. I repeat what I have already said on more than one occasion, that if locks for ships could be operated only in the old way, I would no more build one than undertake to row the Great Eastern across the Atlantic by human Knowing only the old way, those engineers were right in advising a level canal from the Atlantic to the Pacific, notwithstanding its enormous cost, its unavoidable narrowness, involving great delay and risk, its exposure to floods only imperfectly diverted, and all the dangers and expenses almost always incident to deep cuts. Some of those risks I adverted to more fully on a former occasion.

"I have calculated for a lift of 30 feet. Probably that is as high as the ground will permit any lock to be made. I should not hesitate to go higher than that if

the situation permitted.

"Where there is plenty of water, or where water-saving basins are used for the locks of large lift, there is no necessity for the traditional Procrustean rule of making the locks of uniform lift, whether that fits the ground or not. Mr. Douglass, already mentioned, made locks of 33 feet lift, which worked easily, safely, and well for a quarter of a century. They were emptied in two minutes. The higher the lift the less the cost of construction and operation, and the less the detention per foot lift."

Mr. Welch's estimate of time required to pass a vessel weighing 40,000,000 pounds, much heavier than anything affoat except the Great Eastern loaded:

	Minutes.
"To hook on the hauling and breast lines	1
"To give velocity of 3 feet per second in 135 feet	1.5
"To move 540 feet at 3 feet per second	3
"To stop in 135 feet	1.5
"To shut the lower gates	1
"To fill the lock safely (outside calculation)	6
"To open the upper gates	1
"To open the upper gates "To overcome the inertia and move 810 feet	5.5
	20.5

"Probably in almost every location where water is to be had a better ship canal can be made with a few locks, and at a far less cost than a sea-level canal. A small part of the money saved by the locks will in most cases make a broad and deep canal, where ships can go safely and rapidly and pass each other anywhere without delay, instead of narrow, deep cuts, commonly dangerous and always expensive, where ships must move slowly and commonly wait to pass each other.

"The question must be decided in each case whether the very large amount required for the construction and operation of a lock will save a larger amount in .

¹ The Chesapeake and Delaware Canal has a deep cut about a mile long-I do not know the figures, but I suppose that first and last the maintenance of the canal through this cut has cost more than the maintenance and operation of all the locks on the canal. The "Gap Cut," on the Pennsylvania Railroad, gave a great deal of trouble for years and cost a good deal of money.

some other way, and whether the half hour's delay at each lock will save a greater

delay in some other way.

"The plan I have presented of the construction and operation of a ship-canal lock is so simple and its practicability so evident your mental exclamations have probably so often been 'Why, of course,' that I feel like apologizing for taking up your time in laying it before you. And yet, though so plain when once presented, eminent engineers have failed to see it."

The largest lock in the world is the one at St. Marys Falls. The approaches are not completed and cause material delays, yet lockages do not occupy half an hour. In the many thousands of lockages made in the North Sea Canal not a ves-

sel has been injured.

It is probable the number of locks finally built to overcome the 110 feet elevation across Nicaragua may be materially reduced from 12 in number, as now pro-The one tidal lock would be necessary were the canal at sea level, and

the French now admit one must be adopted at Panama.

The Caledonian Canal across Scotland, exclusive of lakes, is 23 miles long and cost £1,023,628. It is 122 feet wide on the top and 50 feet on the bottom and has 20 feet depth. The slopes are covered with stone as a protection, and steamships of 17 feet draft steam along this canal at from 7 to 11 miles per hour, a fact here stated to show what may be possible as an attainable speed in the Nicaragua Canal by adopting suitable protection for the work. (Annual Cyclopedia.)

The probable time of transit may be stated thus:

Passage of 511 miles of canal, at 4 miles per hour	Hours.
120 miles of river and lake navigation, at 10 miles	12
12 locks, at 15 minutes each (more than General Weitzel's estimated time). Deductions, etc.	
Total time	36

Hence, two days would be an outside limit for the transit. The time may be reduced by improvements entirely feasible and by higher speed in the river and

lake.

The San Juan River generally is from 600 to 1,200 feet wide, and the available width will be increased by the dam. In two places, where the water is deep, the river bed contracts to a width between 400 and 500 feet. There is no point where a line tangent to it and reaching from shore to shore on the opposite side is not at least 3,200 feet in length. The dam being 49 feet above the usual river level, will afford water for a long distance over the points and bottom lands. The depth of water in the lake is considerable, except near the southeastern shore, where dredging in soft mud must be done to deepen the channel to the canal entrance.

The deepest cut in the divide between the lake and Pacific Ocean is 41.6 feet above the lake and canal summit level, an elevation not half that of the hill on which this Capitol stands above the Potomac, and the cut of this depth is less in width on the divide than the length of some steamers that will traverse the canal. The elevation of Lake Nicaragua above the ocean is less than that of the Senate

Chamber floor above the Potomac.

The improvement of the harbors, in the opinion of engineers who have examined them, presents no great difficulties and will not be very costly. They do not in any degree offer the difficulties overcome in the construction of the harbor of

Y-Muiden, at the entrance of the North Sea Canal.

Nicaragua is central in tropical America, and is capable of development beyond the imagination of those who have not passed over the country and studied its Under the stimulating influence of such a highway for commerce and outlet for the products of that region, its prosperity would be assured, and the United States could not fail to reap a rich return for their encouragement of the canal enterprise. Our national influence and prestige will be assured and our commercial interests with Central and South America greatly benefited. unnecessary to more than advert to the importance of this highway to the Pacific States and to the interstate trade between them and those on the Atlantic.

The superior situation of the Nicaragua line in connection with general com-

merce is shown as follows:

All voyages between ports in either ocean north of the latitude of Tehuantepec, so far as regards actual distance only, would be favored more or less by that route, and all voyages between all ports in the Atlantic and those to the south of Tehuantepec, in the Pacific, would be favored in all respects via Nicaragua.

TABLE 1 (page 6, Mr. Nimmo's report).

Number of vessels and amount of tonnage which might have passed through the proposed canal if it had been constructed,

[N.B.—This table is based upon statistics of the latest year for which the requisite data can be obtained.]

	No. of vessels.	Tons.
1. Average number of vessels and amount of tonnage entered at and cleared from either side of the Isthmus of Panama, annually, in trade with all nations 1 (Appendix 2 and 3). 2. Vessels entered at and cleared from Pacific ports of the United States in trade around Cape Horn with Atlantic ports of the United States during	338	533,000
the year ended June 30, 1879 (Appendix 4). 3. Vessels entered at and cleared from Atlantic ports of the United States in trade with foreign countries west of Cape Horn during the year ended	75	120,662
June 30, 1879 (Appendix 5). 4. Vessels entered at and cleared from Pacific ports of the United States in trade with foreign countries east of Cape Horn during the year ended	273	247, 567
June 30, 1879 (Appendix 6) 5. Vessels entered at and cleared from ports of the several countries of Europe in trade around Cape Horn with foreign countries other than the United States during the latest year for which the data can be stated with respect	455	551,929
to each country (Appendix 7)	1,644	1, 462, 897
with countries of Europe during the year ended June 30, 1879	33	22, 331
Total	2,818	2, 938, 386

¹An estimate from the report of the United States consul at Panama (Appendix 2), and from a statement compiled from British consular returns (Appendix 3).

²Compiled from special reports by collectors of customs.

TABLE 2 (page 8).

Showing the tonnage engaged in guano and niter carrying via Cape Horn, a business conducted by sailing vessels.

	Vessels.	Tons.
Westward passages via Cape Horn	314 496	314,000 496,000
Total	810	810,000

TABLE 3 (page 9).

Showing the deductions Mr. Nimmo estimates should be made from the gross amount of trade which might have passed through a canal, as shown per table, page 6, amounting to 2,938,386 tons.

	Vessels.	Tons.
(a) Vessels employed in trade between Atlantic ports of the United States and Australia. (b) Vessels employed in trade between Atlantic ports of the United States and Chile. (c) Vessels employed in trade between Europe and Chile.	79 24 372	53,685 17,120 368,193
(d) One-half of the tonnage employed between Atlantic ports of the United States and China and Japan (estimated) (e) Vessels engaged in guano and nitrate of soda trade between Atlantic ports of the United States and ports of Europe, with the western coast of South America.	52 810	64, 604 810, 000
Total	1,337	1, 313, 602

Deducting the above amount from 2,938,386 tons, he arrives at 1,624,784 tons as representing the probable business of the canal.

The several amounts of tonnage in Table 1, with the exception of 2 and 6, contain items of carriage between ports lying to the north or to the south of Tehuan-tepec, to be credited to each of the routes, as follows:

Item 1.—Traffic over Panama Railroad with San Francisco (p. 19), 30,734 tons.

credited to Tehuantepec.

Item 3.—China and Japan trade, 129,208 tons, credited to Tehuantepec.

Item 4.—Trade with Brazil and Africa (Appendix 6), 18,568 tons, credited to Nicaragua.

Item 5.—Trade with west coast of Mexico (Appendix 7), 11,438 tons, credited to

Tehuantepec.

Distributing the amounts according to the indications given in the table, and correcting as above, the following results are obtained:

Items.	Tonnage for which Te- huantepec would be the shorter distance.	Tonnage for which Nicaragua would be the shorter distance.
1	Tons. 30, 734 120, 662 129, 208 533, 361 11, 438 22, 331	Tons. 502, 266 118, 359 18, 568 1, 451, 459 2, 090, 652

That is, of the total carrying trade between the Atlantic and Pacific ports, as per Mr. Nimmo's table, five-sevenths would be favored by the Nicaragua route. Mr. Nimmo made deduction as per Table 3, by which he reduced the probable

business of a canal to 1,625,000 tons.

In these deductions one-half the carrying trade between our Atlantic ports and those of China and Japan is included, and in order to ascertain what proportion of 1,625,000 tons carrying business Tehuantepec would favor in distance, that trade must be deducted from the amount above credited to the route:

Proportion for which Tehuantepec was before found to be the shorter distance. Deduct half trade with China and Japan (item 1, page 9)	Tons. 847, 734 64, 604
Carrying trade for which Tehuantepec is the shorter route	783, 130 1, 625, 000
Carrying trade for which Nicaragua would be the shorter route	841,870

In further discussion of this subject it will be shown that Nicaragua is quite as favorably situated as Tehuantepec for all this carrying business, except that between our own ports on the two oceans and also that between our Atlantic ports and those of the west coast of Mexico.

Assuming this to be the case, the following results are shown by Mr. Nimmo's tables:

Item.	Tonnage via Tehuan- tepec as the shorter route.	Tonnage via Nicaragua as the short- er route.	which might
12	Tons. 30,734 120,662	Tons. 502, 266	Tons.
3	120,000	118, 359 18, 568	129, 298 533, 361
6	11, 438	1, 451, 459	*22, 331
Total	162, 834	2,090,652	684, 900

Or, on the basis of 1,625,000 tons carrying trade-

Item.	Tonnage via Tehuan- tepec as the shorter route.	Micoroccuo	which might
1	Tons. 30, 734 120, 662	Tons. 502, 266	Tons.
5	11,438	18,568 138 093	129, 208 533, 361 *22, 331
Total	162, 834	777,266	684, 900

Thus it appears that of the carrying business Mr. Nimmo found for a canal 162,824 tons would be favored by Tehuantepec; 777,266 tons by Nicaragua, and 684,900 tons, other things than distance being equal, would take either route with like advantage.

The grain carrying from the Pacific slope would make much larger figures for item 4, Table 1, than Mr. Nimmo gives; but this business being conducted with European ports would not add a ton to the list favored by Tehuantepec, but would

pass to the third column above.

A canal affording a safe, rapid, and sure transit across the American Isthmus to every class of commercial vessel found upon the ocean can not fail to exert a powerful influence in the reestablishment of our merchant marine. It must greatly increase the construction of both wooden and iron vessels, for the voyages in the carriage of our coast trade, which then would be continuous for 4,000, 5,000, and 6,000 miles, would call for vessels of the best class, both as regards size and construction.

In the last half of 1881, 70 American ships sailed from the Pacific ports grain laden, the smallest cargo having been 1,270 tons and the largest 3,300 tons in weight; but the whole number sailing so laden was 303, of all nationalities, and carrying cargoes up to 4,000 tons each. This magnificent fleet sailed around Cape Horn for European ports, a distance of 13,710 miles, whereas, had the canal been open, the distance would have been 7,200 miles, a loss of 6,500 miles in sailing distance for each vessel and an aggregate loss of 1,969,500 miles; an expense the wheat growers of the Pacific slope have paid.

The cost of maintenance, management, and operating the Suez Canal in 1880 was \$852,080. Its gross receipts were \$7,943,596, and its net receipts \$7,091,516.

Had it been a ship railway costing 50 per cent of receipts for operating expenses, its outlay would have been \$3,971,798
Actual expenses of Suez Canal \$52,080

All of which is respectfully submitted for the society.

S. L. Phelps, Chairman Executive Committee Interoceanic Canal Society.

WASHINGTON, March 16, 1882.

Hon. JOHN F. MILLER,

United States Senator, Chairman Subcommittee of Committee on Foreign Relations on Interoceanic Canals.

Hon. Charles G. Williams, United States Representative, Chairman Committee on Foreign Affairs.

GENTLEMEN: I have now received a statement of the receipts of the Suez Canal Company for the year 1881, and have the honor to submit the following comparative exhibit. I also avail of these data to contrast the cost of operating a ship canal and a ship railway by taking the actual experience of the Suez Canal Company and the conditions for a ship railway as proposed in the bill now before the Senate.

SUEZ CANAL.

Cost.-This canal is 100.15 miles long. The deepest cut is 70 feet above sealevel. Total cost, \$92,278,907. For a long period excavation was carried on by human hands, the dirt being taken out in such quantities as could be laid upon the carrier's back above the arms crossed over it to form a barrow. The enterprise, under such methods, became a failure, but was rescued by the introduction of dredges of not very efficient character.

The canal could to-day be constructed for half the amount it cost, yet the stock

of the company has sold recently for more than five times its par value.

Receipts from the canal business:	
•	Francs.
1878, Total receipts, less land and water rents	31, 292, 347
1879. Total receipts, less land and water rents	33, 500, 000
1880. Total receipts, less land and water rents	41,676,792
1881. Total receipts, less land and water rents	51, 941, 509
Expenditures for maintenance, management, and operation:	
1878. Total expenses, less those for lands and irrigation	4,630,139
1879. Total expenses, less those for lands and irrigation	4,389,000
1880. Total expenses, less those for lands and irrigation	
1881. Total expenses, less those for lands and irrigation	
Mean of three years	4, 599, 950

The gross expenditures for 1881, including interest on obligations, bonds, and capital shares, were 28,000,000 francs. For 1878 the same expenditures were 28,678,325 francs; for 1879, 28,059,000 francs, and for 1880, 28,179,807 francs. Hence, the mean of the expenditures for maintenance. etc., for three years would be a large amount to assume for the year 1881, but I adopt it (being \$876,751) because the itemized expenditures for the year will not be made known until the meeting of the canal board in May next.

This rate of expenditure for 1881 is 8.85 per cent of the gross receipts. During 1880 old appliances were discarded and new ones provided, creating an increased

expenditure for "entretien."

Expenditures for 1880:	Francs.
For administration in Paris and Egypt	1, 142, 619
For maintenance and repairs, including about 1.500,000 cubic yards of dredging in Port Said Harbor and the canal	
For operating the canal, including towage, towboats, pay of employees,	
materials, tools, lights, etc	1,558,219
Total expenditures	4,780,713

Sir Edward J. Reed, in his statement before the Senate Committee on Commerce, mentioned the serious caving in of the sandy banks of the canal and the difficul-ties in its navigation as observed by himself. The value of his observations will be appreciated by reference to the above statements of receipts and expenditures. A business that springs in one year from 33,000,000 francs to 41,000,000 and the following year bounds up to 52,000,000 francs does not indicate apprehensions on the part of shipmasters, owners, or shippers; nor does a rate of expenditure for operating and maintaining the work represented by 8.85 per cent of gross receipts leave a margin for costly repairs or expensive working.

Were the expenses of the Paris office (amounting to \$164,000 of a total expendi-

ture of \$876,751) reduced to an economical basis, the total expenses would be less

than 7 per cent of the gross receipts.

The yearly cost of maintaining and operating railways is from 60 per cent of gross earning upward to their full amount. The great trunk lines are less expensive than ordinary roads.

In 1880 the expenses of the New York and Hudson River Railroad (very low grades) were 59.04 per cent of gross earnings; of the Erie road, 62.29 per cent, and of the Pennsylvania road, 61.90 per cent, the mean being about 61 per cent.

Captain Eads's bill provides that 50 per cent of gross receipts shall be taken as the expenses of the ship railway.

The business of the Suez Canal for 1881 amounted to \$9,900,052. Had its expenses been 50 per cent of earnings its account would have stood thus:

Net earnings 4, 950, 026

The company's account was as follows:
1881. Gross receipts of canal
Expenses
Net earnings. 9% per cent on cost 9,023,301
Net earnings, based on railway expenditures 4,950,026
Difference in favor of the canal 4,073,275
Captain Eads estimates the cost of the railway at \$75,000,000. Adding for con-
tingencies would nearly double this amount; but take his estimate without an addition of any kind:
9% per cent on \$75,000,000 would be
Add for expenditures 50 per cent
Total earnings necessary for ship railway to give same net amount
as the Suez Canal 14,505,000
The Nicaragua Ship Canal, 53.15 miles long, is estimated by Government officers to cost, including harbor and river improvements, \$41,000,000, the estimates being
based on actual governmental surveys and measurements.
Assume the total cost to be \$75,000,000:
9% per cent on \$75,000,000 would be \$7,252,500
Expenditure, based on the cost for maintaining and operating four ship
canals 1 600,000
The cost of maintenance, management, and operating the Nicaragua Canal, as derived from—
The Suez Canal (yearly cost \$876,751), would be \$327,639 The Louisville and Portland Canal (yearly cost \$30,928), would be 126,330
The St. Mary's Falls Canal (yearly cost \$25,000), would be
The North Sea Canal (canal 16 miles long, two sets locks, and artificial
harbor, yearly cost \$75,000), would be
Mean result
Add for 12 locks, at \$20,000 each 240,000
Add for harbor expense, same as Suez
Total yearly expense for the Nicaragua Canal
Receipts necessary for 9% per cent net earnings 7,852,500
Receipts necessary for 9% per cent net earnings for ship railway 14,505,000
Difference in favor of the Nicaragua Canal 6,652,500
The railway would therefore impose a tax on commerce \$6,652,500 greater than
a canal would cause, and that tax would fall upon shipping of a small class, the railway being constructed for vessels of only 4,000 tons displacement, while the
estimates for the canal cover a construction equal to the carriage of larger steamers

than any now employed in commerce, although some entering New York Harbor displace up to 13,500 tons.

Very respectfully,

S. L. PHELPS.

[Senate Ex. Doc. No. 15, Forty-sixth Congress, first session.]

Message of the President of the United States, transmitting, in answer to a Senate resolution of April 15, 1879, a copy of the report of the commission appointed by the President March 15, 1872, relating to the different interoceanic canal surveys and the practicability of the construction of a ship canal across the continent.

To the Senate of the United States:

In compliance with a resolution of the Senate of the 15th instant, I transmit herewith a copy of the report of the commission appointed by the President on the 15th of March, 1872, relating to the different interoceanic-canal surveys and the practicability of the construction of a ship canal across this continent

R. B. HAYES.

EXECUTIVE MANSION, April 18, 1879.

¹There will be no dredging in the Nicaragua Canal. In the Suez Canal it amounts to about 1,500,000 cubic yards annually.

REPORT OF THE INTEROCEANIC-CANAL COMMISSION.

WASHINGTON CITY, February 7, 1876.

To the President of the United States:

The commission appointed by you to consider the subject of communication by canal between the waters of the Atlantic and Pacific oceans across, over, or near the isthmus connecting North and South America, have the honor, after a long, careful, and minute study of the several surveys of the various routes across the

continent, unanimously to report:

1. That the route known as the "Nicaragua route," beginning on the Alantic side at or near Greytown, running by canal to the San Juan River; thence following its left bank to the mouth of the San Carlos River, at which point navigation of the San Juan River begins, and by the aid of three short canals of an aggregate length of 3.5 miles reaches Lake Nicaragua; from thence across the lake and through the valleys of the Rio del Medio and the Rio Grande to what is known as the port of Brito, on the Pacific coast, possesses, both for the construction and maintenance of a canal, greater advantages and offers fewer difficulties from engineering, commercial, and economic points of view than any one of the other routes shown to be practicable by surveys sufficiently in detail to enable a judgment to be formed of their relative merits, as will be briefly presented in the appended memorandum.

The data for the conclusions of the commission will be found in the reports of the various surveys and examinations made under the direction and auspices of

the Navy Department, copies of which are transmitted herewith.

A statement relating to these surveys and examinations, with a brief account of the characteristic features of the routes, will be found in the accompanying memorandum prepared by the commission.

We have the honor to be, with high respect, your obedient servants,

ANDREW A. HUMPHREYS. Brigadier-General, Chief of Engineers, U.S.A., etc. C. P. Patterson, Superintendent United States Coast Survey. DANL. AMMEN, Commodore and Chief of Bureau of Navigation.

ACCOMPANYING MEMORANDUM.

At the time of the appointment of the commission various surveys for an interoceanic ship canal across this continent had been made by different parties, and others were in progress under the Navy Department. No formal meeting occurred until the surveys in progress were completed and their results presented in the shape of reports, maps, and plans upon the routes which, as presented, appeared the most practicable.

On the 5th day of February, 1874, a sitting was held. General information bearing upon the subject was discussed, as well as that derived from the recent surveys made under the Navy Department as far as then executed. Captain Shufeldt and Commanders T. O. Selfridge and E. P. Lull, of the Navy,

were invited and appeared before the commission for the purpose of making verbal explanations relating to the different surveys of which they had charge. Capt. R. W. Shufeldt had charge of those on the Isthmus of Tehuantepec, Commander T.O. Selfridge of those including the San Blas and Chepo route and all lying south and east of that line, and Commander E. P. Lull of those via the Nicaragua Lake and afterwards of those on the Isthmus of Panama, as will be mentioned hereafter.

It was agreed to take up the discussion of the routes from the north toward the south and to request the assignment of Army engineers for the purpose of passing over and making a personal examination of the relative practicability of two of the proposed routes, and also to examine and report upon whatever related prac-

tically to the execution of the works,

The commission therefore asked the aid of the honorable Secretary of the Navy, who kindly supplied the necessary facilities for the desired examination through our naval vessels. The proper officers who had been engaged on those surveys were also detailed to facilitate the examination, and several civil engineers were invited to accompany the parties and to report their views after personal inspection.

By request of the commission, Maj. Walter McFarland and Capt. W. H. Heuer, United States engineers, and Prof. Henry Mitchell, of the United States Coast Survey, made the personal examination desired, accompanied by Gen. Jacob Ammen and Civil Engineer D. S. Walton, whose observations and services were not the less valued or appreciated because they were honorary.

The reports made by the gentlemen are herewith appended.

A discussion of the Nicaragua and Atrato-Napipi routes, after the receipt of the preliminary reports of these gentlemen, induced the commission to ask a close instrumental survey on the Isthmus of Panama. This was rendered further desirable by surveys that were said to have been made, the reports of which had been asked for of the those concerned and best informed without obtaining definite information. The commission has to express its obligations for the prompt and efficient manner in which the honorable Secretary of the Navy caused this survey to be made by Commander E. P. Lull, United States Navy, a corps of junior officers, and Civil Engineer A. G. Menocal, United States Navy, and also for the actual line of location of the Atrato-Napipi route and other information by Lieut. F. Collins, United States Navy, and party, who had previously been under the command of Commander T. O. Selfridge. In this manner the collection of information was completed as deemed necessary for a decision upon the subject. The commission is pleased to recognize the laborious works conducted through a series of years by naval officers, under the instructions of the Navy Department, on a field of operations extending over large tracts of territory and believed to preclude the existence of as favorable lines for the construction of an interoceanic ship canal as those herein particularly presented for consideration.

Geographically from the north end toward the south they are situated in the following order: (1) The Isthmus of Tehuantepec; (2) the Nicaragua route via Lake Nicaragua; (3) the Isthmus of Panama; (4) the San Blas and Cheporoute; (5) Caledonian and Morti routes; (6) Caledonian and Sucubti routes; (7) the so-called "De Puydt" route; (8) the Cacarica and Tuyra route; (9) the Atrato and Fer-

nando route; (10) the Atrato-Napipi route.

THE TEHUANTEPEC ROUTE.

This route has been sufficiently examined by Capt. R. W. Shufeldt, U. S. N., aided by a corps of junior officers and Civil Engineer A. G. Tuertes, to admit of a satisfactory general discussion and comparison of its character and merits with those of other routes. It has a summit level of 754 feet, which it is proposed to reduce to 732 feet at Tarifa. A harbor must be constructed on each coast.

reduce to 732 feet at Tarifa. A harbor must be constructed on each coast.

The Coatzacoalcos River must be improved to the highest point of the river, which could be utilized for navigation about 35 miles. Its banks are low and during freshets entirely overflowed. One hundred and forty-four miles of canal must be built, with 140 locks of 10.4 feet lift; with a feeder 27½ miles long (requiring primarily to dam the water supply to an elevation of 86 feet), having four tunnels of an aggregate length of 3.6 miles. There is some question as to the efficiency of the water supply. Assuming a common standard of dimensions of canal and locks and of price of materials and labor for all the routes, the estimated cost of this route would largely exceed that of the Nicaragua route.

THE NICARAGUA ROUTE.

Commander E. P. Lull, U. S. N., with a corps of junior officers and Civil Engineer A. G. Menocal, made the survey of this route. The summit level is designed to be 107.62 feet above the two oceans—the surface of Lake Nicaragua being maintained at the highest water mark by a dam at Castillo.

Two harbors must be constructed, one at or near Greytown, the other at Brito,

on the Pacific.

The eastern division is 108.5 miles long, of which 49 miles is canal, extending from the proposed harbor on the eastern coast to and along the San Juan River to the mouth of the River San Carlos, at which point slack-water navigation of the San Juan begins, and, by the aid of three short canals, having an aggregate length of 3.5 miles, around the proposed dams in the San Juan (four in number), reaches to Lake Nicaragua, a distance of 63 miles of slack-water navigation.

The four dams alluded to are located as follows, with dimensions as given: No. 1, Castillo, 940 feet long, 21 feet high; No. 2, Balas, 1,196 feet long, 31.9 feet high; No. 3, Machuca, 824 feet long, 34 feet high; No. 4, San Carlos, 1,000 feet

long, 31 feet high.

Ten lift locks are required, of an average lift of 10.76 feet each. They are all located on hard ground, and only at one location are two locks placed together.

Different parts of the San Juan River, utilized by means of dams for slackwater navigation, must be deepened by dredging, and to a small extent excavated in rock.

Owing to the great extent of Lake Nicaragua (2,800 superficial miles, to be further increased through the Castillo dam), which receives the silt of the water-

sheds that drain into it, the flow of water in the river is nearly equalized throughout the year, so as effectually to prevent floods or freshets. This is an important consideration in its bearing upon the construction and maintenance of the inter-The watersheds, too, bordering on the upper San Juan, by oceanic canal works. reason of the trends of the San Carlos and other rivers, are shown to be of limited extent and do not seriously affect the rise of the San Juan. The water supply is sufficient for any possible contingency.

A later reconnoissance shows that a shorter and better location of the lower portion of the eastern division can undoubtedly be found.

The middle division comprises the lake navigation, a distance of 56.5 miles, with

channels of approach at either end requiring dredging and other work.

The western division, extending from Lake Nicaragua to Brito, is 16.33 miles long, and requires 10 lift locks, one tide lock, and a new channel for a part of the Rio Grande.

The deepest cutting is through a mere crest 134 in height, and the excavations

are not of extraordinary magnitude on this division.

The commission has derived much advantage from the reports of Maj. Walter McFarland, Corps of Engineers, United States Army, Gen. Jacob Ammen, and Prof. Henry Mitchell, of the United States Coast Survey, reports based upon reliable information and personal observation in their inspection of the country and of various points on the line as located.

Whatever differences may exist between the reports of Civil Engineer Menocal and those of the gentlemen referred to, it is conceded that the surveys are sufficient to make an approximate estimate of the amount and character of the work

necessary to construct the canal.

The questions relating to the enlargement of the works deemed necessary by Major McFarland, the construction of more extensive harbors, the relative cost of labor and material there as compared with the rates in our country, as well as the determination of the best location possible, will doubtless engage the careful attention of those concerned in its construction.

Respecting the magnitude of the harbors, it is to be remarked that on the west coast the port of San Juan del Sur would serve as a convenient port to await

entrance to the canal, the actual distance apart being about 5 miles.

The sea is usually so smooth and bad weather so unusual that vessels can anchor off Brito itself, in the open sea, to await the opportunity of entering the Gales of wind are almost if not wholly unknown in that region, and squalls are off the land, in no degree endangering the safety of a vessel at anchor off the coast. Nevertheless a heavy ocean swell rolls in, rendering ample breakwaters necessary to secure smooth water at the entrance to the canal.

More difficulties exist on the eastern coast, and a smooth anchorage would be desirable for vessels awaiting transit, but even there the auchorage, although disagreeable without shelter, would be regarded as safe. Here, as on the west coast, it is requisite that the entrance to the canal should have smooth water, which can

only be secured by the construction of ample breakwaters.

Respecting the length of locks proposed (400 feet), the canal should be built for the class of vessels best adapted to extended navigation, which class would in general follow the routes of prevailing winds. Extreme length should be discouraged as well for a true economy as for safety of passengers. length can go, as now, through the Straits of Magellan. Vessels of exceptional

No doubt exists as to the entire practicability of constructing an interoceanic ship canal via Lake Nicaragua. If the work were conducted with ability and honesty, it would be completed within a moderate period of time, and at a cost that would prove commercially profitable by the payment of tolls, moderate when compared with the loss or time, wear and tear, deterioration of cargo, insurance, etc., that belongs to a voyage via Cape Horn or the Straits of Magellan. of construction of the canal and harbors, with all their necessary adjuncts—locks 400 feet in length and 26 feet depth of water-may be set down as at least \$100,000,000.

THE PANAMA ROUTE.

At the request of the commission, for reasons previously stated, the honorable Secretary of the Navy caused a careful instrumental survey of this route to be made in the vicinity of the line of the Panama Railroad.

The proposed route is 41.7 miles long; has a summit level of 123.7 feet (surface of canal above the ocean); requires a dam and feeder 10.5 miles long; a retained dam at Obispo Station: an aqueduct across the Chagres River; a deep cut at the summit level 4.81 miles long with a mean depth of 102 feet and greatest depth of 197 feet; the construction of the lift-locks necessary to overcome the summit level,

and, what is common to all of the routes, the construction of harbors on each coast. The deep cut would probably be subject to landslides, from which the Panama Railroad has suffered scriously, and the canal would be exposed to serious injury from flood. The excavation of the cut, involving the handling and transport of millions of cubic yards of materials, is of itself a very great undertaking, especially in such a climate as that of the Isthmus.

The cost of the whole work, including that necessary in the harbor of Panama and at Aspinwall, is estimated to exceed by nearly 50 per cent that of the Nicara-

gua route.

THE ATRATO-NAPIPO ROUTE.

The additional surveys which the honorable Secretary of the Navy directed to be made last winter by Lieutenant Collins, and an actual line of location, gauging the water supply, and the estimates relating thereto, enable the commission to form a more definite opinion of the approximate amount of labor necessary to execute this work.

The construction of a harbor at the mouth of the Urala (one of the mouths of the Atrato) is supposed to be practicable at a moderate expense; thence to the mouth of the Napipi, a distance of 160 miles, the navigation is unimpeded for any

class of commercial vessels.

The proposed interoceanic canal begins at the mouth of Napipi River, and for a distance of 21.4 miles no special obstacle exists to its construction. At this point it is proposed to cross the Napipi by means of a dam and basin at a surface

level of 143 feet above the oceans.

The Napipi at this point is a mountain stream, subject to extreme floods, and bearing along at such times large quantities of débris. The deep cutting in the valley of the Doguado begins about 7,000 feet after crossing the Napipi. The mean depth of cut from the crossing of the river to the entrance of tunnel is 90 feet a distance of 4.8 miles; a maximum depth of this cut being 245 feet, and at entrance of tunnel 225 feet.

The proposed tunnel has a length of 3.5 miles. The material through which it

must be opened is not determined.

The tunnel opens abruptly on the Pacific, giving a linear distance of 4,500 feet measured on the line of location of the locks, making a continuous flight necessary.

After the canal has left the Atrato and reached the Napipi River at the point where it is proposed to cross that stream, the execution of the remainder of the work will require the greatest skill in engineering; and its cost can not be estimated in advance with any accuracy, though it must necessarily be extraordinarily great.

The rainfall and the duration of the rainy season upon this route are greater than upon the Panama route, and are much greater than the downfall and duration of

the rainy season upon the Nicaragua route.

Unlike all of the other routes for which estimates have been made, for this route supplies of every kind, as well as laborers for the construction of the canal, would have to be brought from considerable distances, still further swelling the cost.

Finally, were the work actually built, the cost of its permanent maintenance would be greater than upon the other routes. The estimated cost of this work upon the same basis of cost of material and labor exceeds by at least 50 per cent the estimated cost of the canal by the Nicaragua route.

TENTATIVE SURVEYS.

Commander T. O. Selfridge, with a corps of junior officers, four assistants of the Coast Survey, a considerable working party, and a large guard of marines, made tentative surveys of all the watersheds from the Bay of San Blas to the head waters of the Chepo River; from Caledonia Bay to the Morti, and from the same vicinity on the eastern coast to the Sucubti across the divide; and the following season, with a different organization of parties, the "Du Puydt route," and that of the Cacarica and Tuyra rivers.

None of these routes affords a practicable location (as shown by these attempts)

for the construction of an interoceanic ship canal.

The survey by Michler and Craven of what is known as the "Tonando route" shows that a broad mountain range divides the two oceans in such a manner as to render impracticable the construction of an interoceanic ship canal within that watershed at any reasonable cost.

The examinations made by Trautewine and others, whenever proper instruments for surveying were used, over the long distances from the Gulf of San Blas toward the south and east to the Atrato-Napipi route, demonstrate the impracticability of

all the proposed routes across it.

ACCOMPANYING PAPERS.

The commission accompany their report with certain reports and maps (printed and manuscript), a list of which is appended.

Report of Major McFarland (written).
 Report of General Ammen (written).

Report of Professor Mitchell (written).
 Report on the Tehuantepec route (printed).
 Report on the Nicaragua route (printed).

6. Report on the Panama route (printed).

Reports on the Atrato-Napipi route.

7. Report of Commander Selfridge (printed). 8. Report of Lieutenant Collins (printed).

We have the honor to be, with high respect, your obedient servants,

Andrew A. Humphreys,
Brigadier-General, Chief of Engineers, U. S. A.
C. P. Patterson,
Superintendent United States Coast Survey.
Dan't Ammen,
Commodore, and Chief of Bureau of Navigation.

MEMORANDUM.

This memorandum briefly alludes to the salient points that pertain to the several routes more particularly mentioned. The question was in its nature competitive, the most important points being economy of construction and maintenance, with a sufficient water supply to meet whatever demand might be made in the future upon its capacity. No doubt whatever exists that the Nicaragua route will fulfill these conditions more completely than any other route considered.

In relation to building material and relative cost of construction for a given amount of work, with any route named the Nicaragua will compare with advantage. The transportation of material can be effected with economy and facility along the proposed line, and whatever is required in wood, lime, and stone may be said to be at hand. The country abounds in wholesome food, and would furnish a considerable number of the laborers that would be required for the construction of an interoceanic ship canal.

So far as our national interests are concerned, obviously the shorter coast route between California and our eastern coast would be the best. But the difficulties to be met at all points, and the great cost of construction at even the most favorable, narrows the question to a commercial consideration.

The "coasting trade" and outlet to European markets for the productions of our west coast give the construction of a ship canal special value to us nationally. Were an interoceanic ship canal built a great stimulus would be given to the wheat production of our Pacific coast, which might furnish an abundant food

supply to European markets at remunerative prices.

Apart from local interests we have one in common with the great commerce of the world. It would be superfluous to discuss the effect of the construction of this interoceanic canal. It is obvious that, with moderate tools and amply capacity to meet the wants of transportation, an interoceanic ship canal would change the routes of commerce of the world in a greater degree than any work that has been constructed. It should therefore be regarded with favor by the civilized world.

The towage dues should be reduced as the commerce increased to allow only a liberal interest on the cost of construction, and no discriminating advantages should be allowed between the vessels of those nations that subscribed to the necessions.

sary guaranties of neutrality.

The Nicaraguan Government has given all possible aid to our officers and their parties who were engaged in making the surveys through her territory, and has expressed a desire, as is known to us unofficially, to forward the work of construction of an interoceanic ship canal in whatever way within the limits of her resources.

In the common interest of all nations and peoples, and to insure the security of Nicaragua and adjacent States, as well as for the security and interests of the constructors of an interoceanic ship canal, a guaranty of neutrality and protection seems necessary on the part of all nations who wish its benefits, making neutral approaches so wide and so well defined as to forbid a close or effective blockade,

and that the Government of Nicaragua should guarantee that both ports adjacent

to the sea should be free and without port charges or let or hindrance.

It seems necessary also that that Government should condemn such private property, whether lands, timber, lime, stone, etc., for the location, construction, and maintenance of an interoceanic ship canal, paying a fair valuation for the same to the owners, to be reimbursed by the constructors, and, in addition, to receive a stipulated amount of stock in perpetuity for that Government, which could not be hypothecated beyond the term of one year.

It would be essential that the constructors should maintain an armed police to preserve order on the neutral territory during the period of construction, and that, should laborers or others pass beyond the neutral belt into adjacent territories, at the request of the Government concerned it should be the duty of the constructors to pursue, apprehend, and bring to justice marauders or other culprits, but under no other condition to cross over, trespass, or interfere in any way beyond the

limit of the neutral territory.

If necessary to preserve order, the Government of Nicaragua would doubtless require passports from persons going into her territory, and, if found advisable, would call upon the constructors to expel persons who were lawless, or bring to justice those who had committed greater crimes, if not able to do so herself with-

out raising and maintaining an extraordinary force for that purpose.

Should the constructors fail to comply with this requisition on the part of the Government of territories adjacent to the neutral belt, it would seem to be the

duty of our Government to propose as a security to the peace and repose of those territories that she should assume the responsibility of protecting them against

armed marauders.

When it is borne in mind that those territories are sparsely populated, and that the ease of living on natural productions might throw into the country so large a population of turbulent and idle men, disposed to live partly by plunder and commit acts of disorder and violence, it seems only reasonable to guarantee the adjacent Governments against the onerous expenses and grave disorders which they might otherwise have to endure. It is thought worthy of consideration whether it might not serve as a guarantee to stockholders, as well in relation to the progress of the work, as to the proper application of the means employed for its execution, if the nations specially interested in the construction of the canal were to appoint "examiners," who should form part of the board of directors or honorary members of it—these examiners to be officers of the respective Governments, paid by them, and not allowed to receive any compensation from the canal construction. We have the honor to be, with high respect, your obedient servants,

> ANDREW A. HUMPHREYS, Brigadier-General, Chief of Engineers, U.S. A. C. P. Patterson, Superintendent United States Coast Survey. Danl. Ammen, Commodore and Chief of Bureau of Navigation.

BUREAU OF NAVIGATION, NAVY DEPARTMENT, Washington, D. C., March 17, 1882.

SIR: In obedience to your order, Master W. H. H. Southerland and myself have made careful measurement of the following distances, on the charts published by

Miles. 2,000
From Brito to San Francisco 2,675
From New York to Coatzacoalcos
From New Orleans to Aspinwall
From New Orleans to Greytown 1,310
From New Orleans to Coatzacoalcos 805
From Ventosa to San Francisco 2, 105

Very respectfully, your obedient servant,

JAS. G. GREEN. Lieutenant-Commander, U.S. N., in Charge Chart Division.

Commodore J. C. P. DE KRAFFT, U.S. N., Hydrographer, Bureau of Navigation.

FORTY-SEVENTH CONGRESS, FIRST SESSION.

[See p. 138.]

July 18, 1882.

[Senate Report No. 840.]

Mr. Miller, of California, from the Committee on Foreign Relations,

submitted the following report:

The Committee on Foreign Relations, to whom was referred the joint resolution (H. Res. 209) to authorize the President of the United States to call an international conference to fix on and recommend for universal adoption a common prime meridian to be used in the reckoning of longitude and in the regulation of time throughout the world, have considered the same, and respectfully report:

That they have examined all the memorials and papers referred to them in relation to a commission for establishing a zero of longitude

and a standard of time throughout the globe.

These papers present two principal phases:

First. The establishment of a prime meridian from which longitude shall be reckoned for all sea charts, which shall therefore have a quality of universal usage.

Second. Standard time for the use of railroads, etc., through dif-

ferent countries.

The committee recognize the practical benefits to be derived from having a common zero of longitude for the charts of all commercial nations, and believe that in the course of years a single line of departure would be adopted. Yet it seems very important that its establishment should be hastened by a convention of delegates from the various commercial nations. It would appear as necessary as the universal reckoning of latitude from the equator. At all events, a question which has so long occupied the attention of men of science and which provokes earnest discussion of its practical phases may as well be settled. The promulgation of such a prime meridian would be analogous to the promulgation of the Gregorian calendar, giving the smaller countries an opportunity to avail themselves of it without compromising their dignity.

The committee recognize the fact that most of the great commercial nations adopt the meridian of Greenwich as the zero of longitude, but that the longitude is reckoned east and west therefrom to the one hundred and eightieth meridian. This single circumstance involves the liability of those navigators near the zero and near the one hundred and eightieth degree of making in their calculations a mistake in sign which may place them on the wrong side of those meridians. The gravity of this point is appreciated when we remember that the zero of longitude through Greenwich crosses the track of an immense

commerce along the dangerous coasts of western Europe.

The committee therefore feel the advisability of counting the longitude through 360 degrees or twenty-four hours from the prime meridian, and thus avoid the possibility of falling into the foregoing errors.

A source of danger to navigation in the use of several prime meridians is where two vessels signal each other under stress of weather, and the one which has had no observation for longitude receives and uses a longitude from the other vessel based upon a different zero from her own, and may proceed to her destruction. The same may happen to a vessel approaching a strange coast line.

In order to ascertain generally what commercial nations are using

a common meridian, the committee have obtained from the charts at the office of the Coast and Geodetic Survey the following enumeration:

COUNTRIES USING THE GREENWICH MERIDIAN FOR CHARTS.

Great Britain, with India, Australia, Dominion of Canada, British Columbia, and all the dependencies, together with survey of dangers, harbors, etc., all over the world.

The United States.

Germany (the topographical maps use Berlin, 13° 23' 53" east of

Greenwich).

Russia (also uses Paris, 2° 20′ 15″ east of Greenwich; St. Petersburg, 30° 20′ east of Greenwich; but gives Greenwich preference).

The Netherlands (also uses Amsterdam, 4° 53′ east of Greenwich).

PER CONTRA:

France uses Paris, 2° 20′ 15″ east of Greenwich. Spain uses San Fernando, 6° 20′ east of Greenwich. Denmark uses Copenhagan, 12° 34′ east of Greenwich.

Portugal has no strictly geographical charts.

Italy, no specimen of sea charts. On the topographical maps she

uses Turin, Milan, and San Fernando.

Upon the consideration of adopting a universal standard of time for all countries the committee believe that the acceptance of such a proposition by any convention is extremely doubtful. At different periods there have been so many chimerical schemes proposed, and no thoroughly practical one suggested, that the committee can not urge this as a reason for supporting the recommendation of a convention. The great railroad corporations of each country will naturally solve this problem for themselves, with, perhaps, local legislation, but the committee believe that the adoption of numbering the hours from 0 at the prime meridian or zero of longitude to 24, consecutively, will afford a basis of local action and hasten the establishment of common railroad time in the different countries.

Beyond the demands of the railroad traffic it seems absolutely necessary that local time shall be retained, because of the many industries and trade customs and legal questions involved. It would appear to be as difficult to alter by edict the ideas and habits of the people in regard to local time as to introduce among them novel sys-

tems of weights, measures, volumes, and money.

Upon a careful weighing of all the evidence before them the committee believe that the question of establishing simply a prime meridian for all nations and reckoning the longitude therefrom through 360 degrees and through twenty-four hours, consecutively, is of such practical importance to commerce and navigation as to justify the calling of the proposed convention, and they therefore recommend the passage of the joint resolution with the amendment agreed upon by the committee.

FORTY-SEVENTH CONGRESS, SECOND SESSION.

[See pp. 105, 139, 141, 187, 402, 410, 415, 457.]

January 31, 1883.

[Senate Report No. 952.]

Mr. Miller, of California, from the Committee on Foreign Relations, submitted the following report:

The Committee on Foreign Relations, to whom was recommitted

Senate bill 550, to incorporate the Maritime Canal Company of Nicaragua, beg leave to report the same back with sundry amendments, and recommend its passage as amended.

[See Senate Report 368, Forty-seventh Congress, first session, p. 107.]

FORTY-EIGHTH CONGRESS, FIRST SESSION.

April 10, 1884.

[Senate Report No. 432.]

Mr. Miller, of California, from the Committee on Foreign Relations,

submitted the following report:

The Committee on Foreign Relations beg leave to report the accompanying amendment, which they propose to the bill making appropriations for the consular and diplomatic service for the year ending June 30, 1885, in lieu of bills S. 347, 594, and 1700, which bills the committee recommend be indefinitely postponed, and ask that the amend ment herewith be referred to the Committee on Appropriations. subject-matters embraced in the above-mentioned bills have been carefully considered by the committee, and their views are contained in the letter from the Department of State, dated March 26, 1884, hereto appended and made a part of this report.

> DEPARTMENT OF STATE. Washington, March 26, 1884.

SIR: I have the honor to acknowledge the receipt of your letter of the 5th instant, inclosing copies of two proposed amendments to the consular and diplomatic bill for an appropriation to defray the expenses of a conference of independent American nations to promote commerce and general peace, and in which you inform me of the courtesy of the committee in submitting the amendments for my consideration, with the request that if the President approve of the proposition, to place it within his power, so far as expenses are concerned, to invite such a conference that I submit a draft of an amendment, such as I regard as proper, or that I indicate which of the two I prefer.

I am thoroughly convinced of the advisability of knitting closely our relations with the States of this continent, and no effort on my part shall be wanting to accomplish a result so consonant with the constant policy of this country, and in the spirit of the Monroe doctrine, which, in excluding foreign political interference, recognizes the common interest of the States of North and South America. string the history of all diplomacy that close political relations and friendship spring from unity of commercial interests. The merchant or trader is the fore-runner and aid to diplomatic intimacy and international amity. With the spirit of the proposed amendments I am in harmony.

But certain practical objections to the mode suggested occur to me. I fear that

a congress so soon to meet, without previous conference with the several governments, and without the preparation of a well-digested programme for discussion, might be unable to acomplish a valuable result. The views of the States which are to be parties to the conference should be obtained, their wishes and aims carefully considered, and thereupon the scope and purpose of the congress carefully defined and outlined in the invitation.

The disadvantage of summoning a congress without some definite assurance of general accord, and without an announcement of its programme. was shown in 1880, when the Colombian Government convoked a congress of Spanish American States at Panama to concert measures for preserving peace between them by means of international arbitration. Few States were represented, and the conference failed to develop unity of views, and broke up without accomplishing anything, except, perhaps, a prejudice against the renewal of the project.

Moreover, it is probable that the other States-certainly the smaller and less powerful among them-would desire a treaty of a liance, requiring of the United States protection and defense in case of attack, not only by European powers, but by their more powerful neighbors on this continent. Material aid also in the construction of their railroads and other similar public works would be expected, neither of which propositions could be entertained by us. In the conference the smallest State would have a voice equal to that of the United States; and while we need not necessarily be bound by the conclusions reached, it would weaken rather than strengthen our influence with these countries if we should feel forced

to reject measures adopted by the conference.

Considerations of much this character influenced the failure of the notable project for an American congress at Panama during Mr. Adams's Administration, in 1828-29. The congress was proposed by the South American States, then recognized by us as independent, but still nominally at war with Spain. Its purposes were mutual alliance and preservation of peace among them. President Adams and Mr. Clay favored the project, but continued opposition, in and out of Congress, developed the general belief that the only result would be to make the United States the responsib'e protector of the whole republican system of the continent, thus giving the minor States the benefit of a special protection which the United States did not need for themselves and could not adequately expect from the rest. The United States commissioner, although appointed, did not attend the congress, and owing to the disordered condition and conflicting interests of the Spanish-American States it attained no result. (See note to Dana's Wheaton, p. 99, et seq.)

The true plan, it seems to me, is to make a series of reciprocity treaties with the States of Central and South America, taking care that those manufactures, and as far as is practicable those products which would come into competition with our own manufactures and products should not be admitted to the free list. By these treaties we might secure for valuable consideration, so as not to violate the most-favored nation clause of other treaties, further substantial advantages, such, for

example, as the free navigation of their coasts, rivers, and lakes.

Indiscriminate reduction of duties on materials peculiarly the production of Central and South America would take from us the ability to offer reciprocity, and we would thus lose the opportunity to secure valuable trade. Removal of duties from coffee, without greatly cheapening its price, deprived us of the power to negotiate with the coffee-growing countries of Spanish America highly advantageous reciprocity treaties, and indiscriminate reduction of duties on sugar would complete our inability to establish favorable commercial relations with those countries which form our natural market, and from which we are now almost entirely excluded. If we confine the reduction of duties on such articles as sugar and coffee to those Spanish-American countries which are willing to negotiate with us treaties of reciprocity we cheapen these products for our own people, and, at the same time, gain the control of those markets for the products of our fields and factories.

Another point seems well worthy of consideration. The United States are great producers of silver, and every market which can be opened for this valuable product is to our direct advantage. Great Britain, on the other hand, strives to disparage and exclude it as a means of exchange; for its use in this way depreciates her wealth and works to her disadvantage. The States of Central and South America are also silver producers, with interests like ours. It would, therefore, be advantageous, and is probably practicable, to agree upon a common silver coin equal in value, say, to our gold dollar, or to some other appropriate standard, which, under proper regulation as to coinage, etc., should be current in all the countries of this continent. Thus value would be given to our silver products,

and commerce with these countries would be aided.

I suggest that it would be well to make an appropriation, giving to the President power to appoint a commission to carefully consider what the best interests of North and South America and the Isthmus require; to send, if found advisable, delegates to confer with the Governments of the other countries, and, after this commission has made its report upon the most feasible means of carrying out measures of mutual advantage, then empowering the President, if he sees proper, to call the convention. A body so convened would meet with its general object and scope marked out, and would know beforehand what wishes of the other States this Government is unable to comply with, thus avoiding what might seem a rebuff should we feel obliged to decline a project matured by the congress without our assent.

I inclose herewith a draft of an amendment embodying these views, which meet

the President's approval.

I have the honor to be, sir, your obedient servant,

FREDK. T. FRELINGHUYSEN.

Hon. JOHN F. MILLER,

Chairman Committee on Foreign Relations, United States Senate.

FORTY-EIGHTH CONGRESS, SECOND SESSION.

[See p. 134.]

February 7, 1885.

[Senate Report No. 1188.]

Mr. Miller, of California, from the Committee on Foreign Relations,

submitted the following report:

The Committee on Foreign Relations, in submitting the resolution to authorize and request the President to "communicate to the Governments of all nations in diplomatic relations with the United States the resolutions adopted by the International Conference held at Washington in October, 1884, for the purpose of fixing a prime meridian and a universal day, and to invite their accession to the same," beg leave to ask the attention of the Senate to the following statement, viz:

By an act of Congress approved August 3, 1882, the President of the United States was authorized and requested to call an International Conference to fix on and recommend for universal adoption a common prime meridian to be used in the reckoning of longitude and in the regulation of time throughout the world. In pursuance of the object sought to be attained by this act, the Secretary of State, in a circular note dated October 23, 1882, inquired of the several Governments of foreign States whether they would be disposed to take part in such a conference if invited thereto; to which inquiry a favorable answer was returned in the majority of cases, and the formal invitation of the President to send delegates to an International Conference to meet at Washington on October 1, 1884, "for the purpose of discussing, and if possible, fixing upon a meridian proper to be employed as a common zero of longitude and standard of time reckoning throughout the globe," was communicated to the several foreign Governments with which the United States maintain relations, by means of a circular note dated December 1, 1883, and issued by the Secretary of State.

In response to this invitation, delegates appointed on behalf of Austria-Hungary, Brazil, Chile, Colombia, Costa Rica, France, Germany, Great Britain, Guatemala, Hawaii, Italy, Japan, Liberia, Mexico, Netherlands, Paraguay, Russia, San Domingo, San Salvador, Spain, Sweden, Switzerland, Turkey, Venezuela, and the United States of America, met in Washington on the 1st of October, 1884, in conference, for the purposes set forth in the said invitation; and after discussing and considering the subject in several conferences, adopted, on the 22d of October, 1884, certain resolutions reciting the conclusions they had reached. On the day last named the conference referred to unanimously adopted the following resolution, viz:

That a copy of the resolutions passed by this conference shall be communicated to the Government of the United States of America, at whose instance and within whose territory the conference has been convened.

The said resolutions have been communicated to Congress by the President, together with the record of the proceedings of the conference.

The committee desire to submit also the following letter from the Secretary of State for consideration in this connection, viz:

DEPARTMENT OF STATE, Washington, February 5, 1885.

SIR: Permit me to call to your attention the subject of the late Prime Meridian Conference held in October last, of which the full protocols, in French and Eng-

lish, were transmitted to Congress by the President on the 4th of December last,

and printed as House Executive Document No. 14.

It will be seen by a perusal of the final act of that conference (doc. cit., pp. 111-113) that its conclusions were embodied in a series of abstract recommendations or resolutions, seven in number, only one of which makes any proposal to the Governments represented. The sense of the conference was, in fact, that no general proposal should be made by it to the Governments represented, but that the initiative should be left to the Government of the United States, which had called the conference.

I have had the honor to consult with the President on this subject, and he is of the opinion that in his annual message, and in communicating to Congress the record of the conference, he had done all that is necessary to bring the matter again within the jurisdiction of Congress (where the project originated), and that it is open to that body to signify its wish as to whether the conclusions reached by the conference shall be brought by this Government formally to the notice of other governments, with an invitation to adopt them for universal use by means of a general international convention to that end.

The accompanying draft of a joint resolution in this sense is submitted for the

consideration of your committee.

I have the honor to be, sir, your obedient servant,

FREDK. T. FRELINGHUYSEN.

Hon. John F. Miller, Chairman Committee on Foreign Relations, Senate.

The committee recommend the adoption of the resolution.

FORTY-NINTH CONGRESS, SECOND SESSION.

[See pp. 105, 107, 135, 141, 187, 402, 410, 415, 457.]

January 6, 1887.

[Senate Report No. 1628.]

Mr. Edmunds, from the Committee on Foreign Relations, submitted

the following report:

The Committee on Foreign Relations, to which was referred Senate bill 2636, entitled "A bill to incorporate the Maritime Canal Company of Nicaragua," respectfully reports:

That in the opinion of the committee the bill ought to pass amended

as herewith reported.

The committee is of opinion that the instance must be rare and exceptional when it should recommend Congress to pass any act of incorporation other than for local purposes within the District of Columbia or in some Territory, but it thinks that for great national objects and for specific purposes, affecting the welfare of the people of all the States, that Congress may rightfully and properly create a corporation to effectuate the same public objects that Congress might by law provide for being done by the Government itself.

The committee is of opinion that this is a case within the principle

just laid down.

The means of water transit between the Atlantic and Pacific oceans at or near the Isthmus of Panama is obviously a matter of the greatest interest to the industrial, commercial, and political welfare of the people of the United States, and it is, the committee thinks, equally clear that it is in the highest degree desirable, so far as may be done consistently with their obligations to other powers, that this transit should be under the influence if it can not be under the control of the United States.

It is well understood that the Republic of Nicaragua and her sister Central American republics have a strong disposition to affiliate their interests with those of our Republic, inasmuch as their political institutions are based upon the same theory as our own, and from geographical proximity we are, or should be, their natural friends and allies, desiring to promote in the largest degree their safety, independence, and welfare, which must necessarily be in every respect

consistent and in harmony with our own.

It is well known that for a long time past the Republic of Nicaragua has been willing and desirous that a ship canal should be built between the two oceans through her territory and in such a way and under such conditions as should promote the common prosperity of all the American republics. From one cause or another the accomplishment of this desire has been continually postponed until at last, it seems clear to the committee, it can hardly be expected that our sister Republic will much longer refrain from doing what she can toward the building of this canal by seeking aid from nations or other people whose commercial and political interests are not altogether in accord with ours. It seems to the committee, therefore, that the least the United States can do is to authorize a corporation composed, as it is believed the names mentioned in the bill do, of highly respectable and responsible citizens of the United States to be a corporation for the purpose of building this canal under any concessions or authority that the Republic of Nicaragua may concede to them. It will be noticed that the bill, as proposed to be amended, provides rigorous security for the due administration of the affairs of the corporation and for the prevention of the diversion of its funds to other purposes than those intended by the act, and that it also provides for the complete authority of Congress to amend or repeal it as the public good may require. It will also be observed that the bill as amended does not draw into question the existence or extent of any supposed treaty obligation of the United States with any power.

Looking, therefore, to the large benefits, not only to the United States and the Republic of Nicaragua and her sister republics, but also to the commerce and intercommunication of the whole sisterhood of civilized governments on the globe, the committee recommends the passage of the bill with the amendments proposed, in the hope that the resources and enterprise of private citizens of our country may be enabled to accomplish this great work even if our Government itself

is not yet ready to undertake it.

All of which is respectfully submitted.

GEO. F. EDMUNDS, For the Committee.

FIFTIETH CONGRESS, FIRST SESSION.

February 1, 1888.

[Senate Report No. 158.]

Mr. Frye, from the Committee on Foreign Relations, submitted the

following report:

Your Committee on Foreign Relations have considered the bill (S. 841) to facilitate the settlement and develop the resources of the Territory of Alaska, etc., and report:

That from the present sources of information open to them they are

inclined to the opinion-

(1) That the proposed line of railroad runs through a region utterly unfit for agriculture both in Alaska and in British Columbia.

(2) That no line of railroad can be built along the Pacific coast of Alaska. It was determined by the company examining in 1865, 1866,

and 1867, touching the feasibility of a telegraph line, that such a line was impossible from Vancouver's Island to Mount Saint Elias.

(3) To build a railroad line down from the interior of Alaska along the line of the peninsula would involve an immense outlay and require

extraordinary engineering skill.

(4) Such a line built could not possibly run six months in the year. The intense cold of the interior, from 40° to 60° below zero for weeks. and some years for months, deep snows, terrible gales drifting and blocking it, sudden freshets pouring the melted snow and ice over the eternally frozen earth, destroying sections of the road, seem to make a railroad entirely impracticable.

(5) Along the line of road indicated by this bill no stock or cattle

can be kept.

(6) No amount of expenditure of money could build a branch of this road to Sitka.

(7) It is difficult to see how the public convenience and necessity

require this road.

For these and other reasons your committee report that the bill ought not to pass.

FIFTIETH CONGRESS, FIRST SESSION.

[See pp. 105, 107, 135, 139, 187, 402, 410, 415, 457.]

February 9, 1888.

[Senate Report No. 221.]

Mr. Edmunds, from the Committee on Foreign Relations, submitted

the following report:

The Committee on Foreign Relations, to which was referred Senate bill 1305, "A bill to incorporate the Maritime Canal Company of Nicaragua," respectfully report the same back with the recommendation that it do pass, with the amendments as marked in the bill.

The committee does not deem it at all necessary to go into any discussion of the great importance to the United States and to the general interests of civilized nations of the proposed work. mittee therefore contents itself with reporting, in connection with this bill, the minutes of the interview between the committee and some of the gentlemen named as incorporators, when the bill was under consideration, and also a copy of the concession made by the Republic of Nicaragua to this association of gentlemen.

All of which is respectfully submitted.

GEORGE F. EDMUNDS, For Committee.

THE MARITIME CANAL COMPANY OF NICARAGUA.

[Minutes of an interview between the Committee on Foreign Relations, United States Senate, and Hon. Charles P. Daly, Hon. Joseph E. McDonald, Hiram Hitchcock, Capt. Henry C. Taylor, Alexander T. Mason, and A. G. Menocal, on the part of the incorporators of the Maritime Canal Company of Nicaragua, on the 25th day of January, 1888, the committee having under consideration Senate bill 1305, to incorporate the Maritime Canal Company of Nicaragua.]

THE MARITIME CANAL COMPANY OF NICARAGUA.

COMMITTEE ON FOREIGN RELATIONS. UNITED STATES SENATE, January 25, 1888.

The committee met pursuant to call. Present, Messrs. Sherman (chairman), Edmunds, Frye, Evarts, Dolph, Morgan, Brown, Saulsbury, Payne.

The chairman laid before the committee, as pending business, the following

Senate bill, and stated that, in obedience to instructions of the committee, Hon. Charles P. Daly and his associates were present at his request.

Senate 1305, Fiftieth Congress, first session, a bill to incorporate the Maritime

Canal Company of Nicaragua.

Senator EDMUNDS. I corresponded with Judge Daly, who drew up the charter of the Maritime Canal Company, and said to him that I thought that it would be desirable for him to make a brief statement to the committee of substantially who the gentlemen are who are engaged in this enterprise proposed; whether it is a real thing and got some bottom and "go" in it, and means business and respectability; and how far they have succeeded in what they are now doing, and what they wish to accomplish if they can have this charter. That is what I suggested to

him that probably the committee would like to know.

Judge Daly. I may first say in respect to myself that I have been for twenty-five years president of the American Geographical Society, and the subject of a canal to connect the Atlantic and the Pacific has been one to which I have given a great deal of attention. Before the Panama route was undertaken, or, I should say, decided upon by M. De Lesseps, the American Geographical Society instituted an investigation to ascertain which of the proposed routes was the most desirable. It invited persons interested in the various routes to take part in this discussion, and representatives or advocates of each were fully heard. There were many sittings, lasting over several weeks, at which I presided. A stenographic report of everything that was said was taken down, which the society published as part of its proceedings. The conclusion at which I arrived from this investigation was that what is known as the Nicaragua route was the most feasible, the least expensive, and from all points of view the most desirable.

In respect to the inquiry as to the character of the gentlemen who ask for this charter, and whose names are embraced in the bill, I do not know them all individually, but I know of them, and know those who are especially active. They are persons of character without exception. There is no person on the whole list whose character is not such as should be associated with such an enterprise.

Senator EDMUNDS. Are all these gentlemen who are named in the charter actually and affirmatively concerned in the business, or is it true, as sometimes we have

known in our lives, that these names are put in as ornamental?

Judge Daly. I will answer that question very satisfactorily. We thought this ought to be a Government undertaking; at least I did, and very many agreed with me; but when we found that the Panama Canal was culminating toward a point we felt assured it would reach, and that our Government was not taking any action, we thought from information we had received that the Nicaragua route would probably be undertaken by some German or English organization, and if the canal was not to be built by our Government, that it ought to be built by American citizens. This was the reason of our organizing. We organized at first somewhat imperfectly to undertake to get a concession. We thought the proper way to do was to get a certain sum of money together, and we arranged what might be called a syndicate in which \$300,000 was paid in by gentlemen whose names are in the bill. Having that amount we went down to Nicaragua and got a concession, which was accompanied, of course, by a pecuniary deposit as an assurance of good faith. Having obtained the concession, we organized a surveying party of forty engineers who are now making a final or axial survey, and we have expended already, or will have expended, about the amount we have raised. We are able, however, to raise a further amount from the ability of the persons of the organization. I think I will have sufficiently answered the question when I say that every gentleman on that list has contributed a part of this amount. Most of us subscribed \$5,000 apiece and paid it, and there is no one who has not paid \$1,000.

The enterprise is undertaken in entire good faith. It is undertaken in connection with parties in this country and in Europe, and whenever we are prepared by a charter to launch the enterprise we have very little doubt of succeeding in obtaining the money to construct the canal. As your time is short I wish to be

very brief upon this point.

Assuming it to be an undertaking of a national character, all we want upon the part of the Government is something in the form of national recognition. We do not ask the Government to give any money toward it. We do not because we think we can raise the sum to build it. We have so much confidence in the work itself that we entertain no doubt of our ability to satisfy the money centers in this country and in Europe, in which money is obtained for such an undertaking, that it is entirely practical and a good investment. We feel that the money will be forthcoming in due time: but we deem it essential that there should be something like a national indorsement of it, and, as the Government has heretofore incorporated companies that have been organized for national purposes, we simply desire such an incorporation and nothing more.

Now, it is necessary that there should be certain provisions in the act of incorporation that will satisfy persons abroad, from whom a large part of the money should be raised. There is nothing more difficult in enterprises of this kind than to get money. It is the hardest thing to get, and it is obtained only upon a thorough security. Now, Mr. Menocal has made an estimate of \$64,000,000 for building this canal. I am not an engineer or financier, but I take it for granted that we will probably have to expend \$100,000,000 for this canal, and that it can be built for that amount; that is why we propose to have the company organized for that amount in the act of incorporation.

Now, when we go abroad for the purpose of raising money in addition to what can be obtained in our own country-for we shall not attempt to raise it there until we have obtained a substantial part of the sum here—the question whether we will be successful or not in a foreign loan will be determined by three circum-

stances.

They will first inquire whether, as an engineering project, the canal can be constructed. I say they will ask—they will inquire—but they will not depend upon us for information upon this point. They will next inquire whether it will be a good security for the money advanced. If they are satisfied as to that, the next inquiry will be whether the canal will be sufficiently profitable to justify the risk in making the loan, and for which they will require an additional pecuniary consideration.

Being satisfied upon all these points they will, I think, loan the money.

The way it is done in enterprises of this kind, and I know of no exception enterprises that involve a large amount of money—is to issue bonds in the nature of mortgage bonds. They are a security upon the work as it is finished, and are paid only as the work progresses, and not otherwise. They are not paid in advance; and as a compensation for the risk, in addition to the interest on the loan, a certain amount of the stock will have to be given. That is the way it has invariably been done. That has been the way with our great Western undertakings to the Pacific. One of the first questions they will ask will be whether we have lawful authority to issue bonds as a corporation. If we should tell them what our laws are, they would answer at once: "We know nothing about your laws," and it is to guard against this that we have incorporated in the charter the right to issue bonds.

The next question would be whether the stock issued for the work as it progresses would be regarded as paid-up stock, and for that reason a provision to that

effect is made in the bill.

Those are the only two important provisions we have inserted in the bill. can then say, there is the charter which authorizes us to issue bonds, and also

authorizes stock to be issued for property and work done. Now, those are the two essential things to put in the charter. Beyond that we ask nothing but the recognition which is implied by the granting of the charter.

I am so considerate of your time, gentlemen, that I do not propose to extend it further than to say that if the Government is willing to take the work off our hands, we are quite willing to give it up. I, however, speak only for myself, and say that I am more interested in the success of this enterprise than any pecuniary advantage I may derive from it. I have been familiar with it and thought over it for many years. I do hope I may live long enough to see this great enterprise accomplished. I attach more importance to it than many do. I consider it one of the great enterprises of the century. I consider it more important even than the Suez Canal. in the future. I do not think we have begun to measure its great advantages to the world and to our country. I have no doubt of its pecuniary success, but I am not a financier and anything on that subject I may say may not have much weight.

Senator EDMUNDS. You say you have engineers at work. I would like to know definitely where those engineers are and what they have been doing. We have sometimes been told that a scheme of this kind was in progress, etc., and then, on inquiry, it was only in progress on paper. I should like to know precisely, in a general way, what you have done about sending out engineers, and whether they

have gone there and are now there.

Judge DALY. That is a very practical question, and I will give a practical answer We have sent out a corps of engineers under Mr. Menocal, the chief engineer here, under a second assistant in charge, with about 40 engineers and 130 We have sent them out at an expense of about \$100,000, and we will have to pay a much larger amount than that as the work goes on. They have commenced the work, and at last advices they have surveyed 10 miles. called the canal surveys have already been made. You know very well this survey has been made several times by our Government. But before the work can be begun there must be a final or axial survey, and they are engaged now in that service. They are very practical and experienced men. They arrived there safely, and were very warmly received by the authorities of Nicaragua, through which State the principal portion of the canal runs. A small portion passes through Costa Rica. They are engaged now in Nicaragua.

Senator Edmunds. Do the Costa Ricans recognize your building this canal?

Judge Daly. I have advised, as acting counsel of the organization, that we had better not go into the controversy between Costa Rica and Nicaragua as to the right to a certain portion of the route through which the canal may pass; that we had better obtain a concession from Costa Rica on the same terms that we have from Nicaragua.

Senator EDMUNDS. The bill provides for that.

Judge Daly. Yes. And if it should turn out that Costa Rica and not Nicaragua has the right to the disputed territory it will be the same to us, having the concession from both, for we do not think we can allow the enterprise to de, end upon an uncertainty of that kind. If we succeed in getting an act of incorporation from the present Congress, we will go at once to the moneyed centers of the world and commence the work.

Senator EDMUNDS. The Costa Rican minister called on me the other day for a copy of this bill, and expressed himself as entirely satisfied with its provisions, as the company did not undertake to claim jurisdiction resting solely upon either one of these Governments. Have you a copy of the Nicaragua concession here, and

can you file it with the committee?

Judge Daly. Yes. I might with propriety urge that we have to give a certain consideration, an offer of stock, to Nicaragua for the concession, and we would have to do the same for Costa Rica. We thought it better not to go into that question in dispute between them. We should give Costa Rica as much as she now claims, a matter of 17 miles on the south bank of the San Juan River. We would give as much in proportion as we give Nicaragua. If it turned out she had nothing, it would be the same to us. We thought that would be a better business way of treating the matter. I have read all their briefs and seen their maps submitted to the Government, and have my own impression about the result. But we have not considered that at all, and do not mean to. We have considered this entirely as a business enterprise.

Senator Morgan. You stated that you were willing the Government should take this enterprise off your hands. Would you be willing that the Government should have the option to take it off the hands of the company at any time?

Judge DALY. I can only answer for myself individually. I think we should all be willing. We are doing a good deal of hard work; we have, the most of us, put in individually \$5,000, which is a small amount comparatively. We feel we will not lose that, but make a good investment of it. If the Government would under-

take it. I think we would all be delighted.

Senator EDMUNDS. Yes; but to get at exactly what I infer Senator Morgan may have in his mind, suppose we would insert in this charter a clause that at any time within twenty years, or in some time after twenty years, or in any way we might put it in, the Government of the United States should have the right to take the work off your hands, making a reimbursement for your actual outlays, etc., how would such a charter and such a general provision satisfy the objects that you have in view?

Judge DALY. I can not answer for any other person than myself at present. I can answer after consultation and give the answer to the committee. Individually I should be exceedingly gratified by the Government taking the undertaking off our hands, making the necessary arrangement for so doing; but such a provision would be no aid to our enterprise.

Senator EDMUNDS. The only question it made upon my mind was what effect it

would have upon your borrowing money on bonds.

The CHAIRMAN. Such a thing would have a great restraint upon your borrowing money on bonds. They expect some extraordinary profit on a transaction of this kind.

Judge DALY. Mr. Chairman, capital is very timid, as you know, and we would

be embarrassed, as you are aware.

Senator Edmunds. If it should be a mere loan of money at a fixed rate of interest for a fixed time, say fifty or one hundred years, then I can not see that the mortgagee would care whether during that time or at the end of it the United States should take up the work, for he certainly would receive his principal and interest according to the stipulation, which would still exist; but if the stock question came in, each bondholder having a certain amount of stock given to him, then of course each bondholder would have an interest besides that of a mere creditor, and would have his chance of profits in the other earnings of the enterprise.

Judge DALY. I probably have not understood the full bearing of the question As a business enterprise I should be unwilling to risk such a provision in the bill. I think Senator Sherman has had some experience in these things in the West,

have you not?

The CHAIRMAN. Yes: in the Western railroads. It is only a recent plan, however, to give stock with bonds-within twenty years.

Mr. DALY. I would like some time for reflection and to consult some financial gentlemen about it; but my present impression is that it would be prejudicial.

Senator MORGAN. Is there anything which authorizes the Government of Nicaragua to take up this work?

Judge DALY. No. Senator Morgan. What length of time does the concession run?

Judge Daly. Ninety-nine years.

Senator Morgan. At the end of that time your charter would expire?

Judge DALY. Yes.

Senator Morgan. But it would be for the Government of Nicaragua to make such extension or concession as they think right?

Judge DALY. Mr. Meno al calls my attention to the fact that there is a provision

in the concession for another extension.

Senator EVARTS. Is there anything in your concession that precludes this Government undertaking the work?

Judge Daly. I think not. You mean the Government?

Senator EVARTS. I mean this Government. Is there anything in the concession from Nicaragua that would preclude this Government from undertaking the work? Judge Daly. You ask a very pertinent and very important question that my attention has not been called to. My hasty impression is that there would be an embarrassment in the terms of the concession. This Government could not come in under our concession.

Senator EDMUNDS. Unless through negotiation and arrangement with Nicaragua Whether in the raising of the money it might not be admissible to make a provision that the United States and Nicaragua, as they might mutually agree, might take up the work, might be worthy of consideration, but, as the concession now stands, not preclude us making a provision of the kind solely on the authority

of the United States.

Judge Daly. The more I think of it I do not see how we could. We could not

do it under the concession as it is.

Senator Saulsbury. On the issue of stock the money will be raised in Europe. What will be the effect of a majority of that stock falling into the hands of citizens of European governments and continuing as an American corporation?

Judge Daly. They could not, by being mere stockholders, change its American character. They would be acting as members of an American corporation. There are a great many persons who have advanced money for American corporations who have representation in the board of directors, but, as a matter of common experience, they do not interfere much with American corporations. They leave it in the hands of persons organizing it.

Senator Saulsbury. Still the power will be in the majority of the stockholders

to change the direction of the company, I suppose.

Judge DALY. There is one consideration in that point of view; our association will be large stockholders by virtue of the concession made to us by Nicaragua, and the State of Nicaragua will also be a large stockholder by virtue of the concession. If a large proportion of the bonds is taken up in Europe, the amount of stock given to the foreign bondholders will be comparatively small. Practically, as a general result, they might have control, but that would only be in cooperation with American holders. I presume that would be the case here. Hon. J. E. McDonald. The committee will notice that the fifth section of this

charter reserves at all times to Congress the power to alter, amend, or repeal.

Senator EDMUNDS. Yes; kept within Congressional control, according to our

modern phrase.

Mr. McDonald. The concession under which this company proposes to organize undoubtedly contemplates the construction of this work by a private company, not by a government, and this instrument that the company asks by Congress as a charter is a very brief instrument. While it is comprehensive in its provisions, it is very brief in its terms, and simply confers upon this company the necessary corporate powers to undertake such work.

Judge DALY. I made it as simple as possible. We merely wanted a national recognition as an incorporation, and I inserted nothing in it beyond our right to issue bonds and our right to issue stock for work or property. I embraced nothing else

in it for that reason.

Mr. McDonald. The Government is not passing this out from under its control at all.

Adjourned.

Concession and decrees of the Republic of Nicaragua to the Nicaragua Canal Association of New York.

The President of the Republic to the inhabitants thereof. Know ye

That Congress has ordered as follows:

The Senate and Chamber of Deputies of the Republic of Nicaragua do hereby

DECREE.

ONLY ARTICLE.—The contract for a maritime interoceanic canal, entered into ONLY ARTICLE.—The contract for a maritime interoceanic canal, entered into the 23d of March ult., between Dr. Adan Cárdenas, commissioned especially by the Supreme Government, and Mr. A. G. Menocal, member and representative of the Nicaragua Canal Association organized in New York, is hereby ratified. This contract shall be a law of the Republic if Mr. Menocal accepts it as soon as he be notified, with the following modifications and upon the following terms:

The undersigned, Adan Cárdenas, commissioner of the Government of the Republic, party of the first part, and Aniceto G. Menocal, representative of the Nicaragua Canal Association, party of the second part, both having sufficient.

Nicaragua Canal Association, party of the second part, both having sufficient powers, have entered into the following contract for the excavation of an interoceanic canal through the territory of Nicaragua.

ARTICLE I.

The Republic of Nicaragua grants to the aforesaid Nicaragua Canal Association, and Mr. A. G. Menocal, representative of the said association, accepts on its behalf, for the purposes set forth in Article VII, the exclusive privilege to excavate and operate a maritime canal across its territory, between the Atlantic and Pacific oceans.

ARTICLE II.

The canal shall be of sufficient dimensions for the free and commodious passage of vessels of the same size as the large steamers used for ocean navigation in Europe and America, provided that no locks used in said work shall be less than five hundred and fifty (550) feet in length and thirty feet in depth.

ARTICLE III.

The State declares this work to be one of public utility.

ARTICLE IV.

The duration of the present privilege shall be for ninety-nine (99) years, to be counted from the day the canal shall be opened to universal traffic. During the aforesaid period the company shall have the right to construct and operate a railway along the whole extent of the canal, or those parts of the same that may be considered convenient for the better service and operation of the said work,

ARTICLE V.

The State binds itself not to make any subsequent concession for the opening of a canal between the two oceans during the term of the present concession, and also to abstain from granting a concession for a railroad, such as might compete with the canal for the transportation of merchandise, during the same period; but nothing in this article shall prevent the Government of Nicaragua from constructing or permitting the construction of such railways as it may deem advisable for commerce and internal traffic. Said Government also to have the right to construct or permit the construction of an interoceanic railway if, in course of time, it be demonstrated that the canal is not sufficient to satisfy the demands of the traffic of all nations.

The grantee company shall have the right to establish such telegraph lines as it may deem necessary for the construction, management, and operation of the canal. The Government shall have the right to occupy these lines for the public

service without any remuneration to the company.

ARTICLE VI.

The Government of the Republic declares, during the term of this concession, the ports at each extremity of the canal, and the canal itself, from sea to sea, to be neutral, and that consequently the transit through the canal in case of war between two powers, or between one or more and Nicaragua, shall not be interrupted for such cause; and that merchant vessels and individuals of all nations of the world may freely enter the ports and pass through the canal without molestation or

detention.

In general, all vessels may pass through the canal freely, without distinction, exclusion, or preference of persons or nationality, provided they pay the dues and observe the regulations established by the grantee company for the use of the said canal and its dependencies. The transit of foreign troops and vessels of war will be subjected to the prescriptions relating to the same established by treaties between Nicaragua and other powers or by international law. But entrance to the canal will be rigorously prohibited to vessels of war of such powers as may be at war with Nicaragua or with any other of the Central American Republics.

Nicaragua will endeavor to obtain from the powers that are to guarantee the neutrality, that in the treaties that shall be made for that purpose they shall agree also to guarantee a zone of land parallel to the canal, and also a maritime zone in

both oceans, the dimensions of which will be determined in such treaties.

ARTICLE VII.

This present agreement, with all its charges and advantages, shall be the object of a company of execution in agreement with Articles I, X, and those following thereafter.

Said company shall be the grantee, and whenever said name is used, in this

present contract, reference is made to it.

ARTICLE VIII.

The present concession is transferable only to such company of execution as shall be organized by the Nicaragua Canal Association, and in no case to governments or to foreign public powers. Nor shall the company cede to any foreign government any part of the lands granted to it by this contract; but it may make transfers to private parties under the same restriction.

The Republic of Nicaragua can not transfer its rights or shares by selling them

to any government.

ARTICLE IX.

The people of all nations shall be invited to contribute the necessary capital to the enterprise, and it shall be sufficient for the fulfillment of this requirement to publish an advertisement for thirty (30) consecutive days in one of the principal daily papers of each of the cities—New York, London, and Paris.

The capital stock of the final company shall be composed of shares, bonds, or obligations of any other kind in such proportion as it may deem convenient. issue and transfer of these obligations shall be exempt from stamp dues and from any other imposts or taxes established or that may be hereafter established in the Republic.

Of the capital with which the company shall organize, and which it proposes to distribute among the different countries interested in the enterprise, there shall be reserved at least five (5) per cent for the Central American Governments and

citizens that may desire to subscribe.

As soon as the company is ready to open subscription books it shall advise the Government of Nicaragua, which will invite the other governments, and through them private parties, to subscribe. All such shares not taken within six months following the date on which the Government shall have been advised of that circumstance shall remain subject to the free disposition of the company.

ARTICLE X.

The company shall be organized in the manner and under the conditions generally adopted for such companies. Its principal office shall be in New York, or where it may be deemed most convenient, and it may have branch offices in the

different countries of Europe and America where it may consider it expedient.

Its name shall be the "Maritime Canal Company of Nicaragua," and its board of directors shall be composed of persons, one-half at least of them shall be chosen

from the promoters who may yet preserve their quality as such.

ARTICLE XI.

The Government of Nicaragua, in its character of shareholder in the company of execution, as hereinafter provided, shall have the perpetual right of naming one director, who shall be an integral part of the board of directors of the company, with all the rights, privileges, and advantages conferred upon them by the statutes of the company and the laws of the country under which it shall organize.

The Government shall also have the right in its aforesaid capacity of shareholder

to take part in such elections as the company may hold.

ARTICLE XII.

The company is bound to keep a representative in Nicaragua vested with all powers necessary for the proper conduct of the service and for the transaction of its business with the Government.

ARTICLE XIII.

The canal will follow the valley of the River San Juan to Lake Nicaragua, through which will be designated the most convenient route for communication with the Pacific Ocean. In any event the company shall have the most ample freedom to select the route which it considers most convenient between the two oceans for the excavation of the canal and its dependencies and its ports, particularly those serving for entrance and exit on both oceans. The company shall have the same liberty to adopt the route which may be deemed most advantageous and economical for the construction of the canal, after the final survey by a commission of

competent engineers.

However, should the company, after the survey of the River San Juan, find it necessary to abandon, in any place, the bed of the river and cut a lateral canal, the Government of Nicaragua reserves the right of requiring from the company the duty of establishing a communication between the part of the San Juan not used for canal purposes and the dividing level of the canal by means of a lock, or a series of locks, suitable for the navigation of ships of six feet draft. As soon as the final plans are adopted and laid before the Government, it shall notify the company within one month after their receipt whether or not they meet with its approval, in order that the company may proceed in accordance therewith. It is understood that this duty does not in any manner compel the company to place or to maintain in navigable condition for small craft the lower part of the river which these locks may be intended to place in communication with the canal.

ARTICLE XIV.

Within three years, to be counted from the commencement of the work upon the interoceanic canal, the company shall, at its own expense, construct a navigable canal between Lake Managua and the navigable part of the Tipitapa River, near Pasquer, of sufficient dimensions to admit of the free passage of vessels drawing six feet and of 150 feet in length. When completed, this canal shall be taken possession by the Government of Nicaragua, and will be, after that date, the property of the Republic, which, by virtue of its ownership, shall be bound to bear all expenses required in the future for the service, maintenance, repair, and operation of the canal. But the company shall have the right to make use of it for all purposes useful for the maritime canal enterprise, and to pass through it freely with its vessels and those belonging to contractors employed in the service of the interoceanic canal during the term of this concession without being subject to any charge whatever, or to pay tolls or contributions of any kind to the Government of Nicaragua, or to any person or company that may, through any cause, be in charge of the administration and operation of the work and its dependencies.

The Government of Nicaragua will place at the disposal of the company, free of all expenses and charges, all the lands that may be required, as well as the materials found thereon, or on those belonging to the Government and that may

be utilized by the company in the execution of this work.

ARTICLE XV.

All expenditures for surveys, construction, maintenance, and operation of the Interoceanic Maritime Canal shall be borne by the concessionary company, without any subvention in money nor guaranty of interest on the part of the Republic, nor other concessions than those specified in the present agreement.

ARTICLE XVI.

The company shall construct, at its expense, and maintain in good condition two large ports, one in the Atlantic and one in the Pacific, to serve as termini of

the canal, each of them to have a light-house of the first order. It shall also construct at the two points on the borders of the lake where the canal disembogues two ports of lesser size, with the respective light-houses.

The company is also obliged to maintain and improve said ports by means of dredges, dikes, piers, embankments, or any other works it may deem advisable, having always in view the good service of the traffic through the canal.

It may, for this purpose, select on the coasts of the two oceans, within the territory of Nicaragua, the localities which the surveys made indicate as preferable.

ARTICLE XVII.

All the space necessary, whether on the mainland, in the lake and its islands, at the ports, roadsteads, or rivers of the two oceans for the establishment of the canal, its paths, and embankments, for depositing the materials from the excavations and cuttings for the necessary spaces to be occupied by water after raising the dams which are to be constructed in the bed of the river, for all necessary deviations of streams, as well as for reservoirs, dikes, spaces about the locks, stations, lights, and beacons, storehouses, buildings and workshops, deposits for materials, and also all those spaces necessary for the routes, service railways, and canals of the same nature for the transportation of the materials to the line of the work and for feeders for the canal; in short, all lands and places necessary to the construction and operation of the canal, as laid down in the drawings and plans made by the engineers of the company, shall be placed at the disposal of the company by the State, under the conditions set forth in the following articles:

ARTICLE XVIII.

Said lands belonging to the State will be given to the company without any compensation whatever; and, with regard to those belonging to private parties, the State charges itself with their expropriation if the company so requests. compensation which may be required in this case shall be paid by the company.

ARTICLE XIX.

In all relating to the expropriation that may be made in conformity with the preceding article, the company shall enjoy all the immunities and privileges which the laws of the country accord to the State, so that in no case shall the company be obliged to pay more than the State would under similar circumstances.

ARTICLE XX.

The Government obliges itself to place the company, within six months after its request, in possession of up to one thousand (1,000) manzanas of land between the lake and the Pacific at such places as the company shall designate, but they are to serve exclusively for cutting the canal, its havens, ports, and other accessory works. The Government shall on its own account cause the necessary expropriation to be made, and the company shall pay to it for all indemnity the sum of fifty thousand dollars (\$50,000) American gold. This payment to be made by the company in Managua within four months after the date of its request.

ARTICLE XXI.

The company shall have the right to take, free of charge, from the public lands for the purpose of construction, operation, and maintenance of the canal, whatever materials may be found on them, especially timber for construction and for fuel, the lime, stone, clay for bricks, and earth for fillings, as may be necessary. As regards materials found on private lands, the company shall pay for what it may need thereof, enjoying in this respect the same rights and privileges which the State enjoys according to law.

ARTICLE XXII.

Should the company require to occupy, temporarily and during the construction of the canal, lands in the territory of Nicaragua which are not included in those designated in articles 17, 18, and 21, it shall not be obliged to pay any indemnity for them if they are public lands; and the State shall not have the right to sell or dispose of them in any other manner after the company has determined to occupy them, unless under the reservation of this right, whose limit shall be the completion of the works on the Interoceanic Canal. Should the lands

belong to private parties, the company shall enjoy, in regard to their temporary occupation, all the rights and privileges which the law accords to the State, with the special privilege of occupying them immediately after the declaration of necessity and utility and after paying the compensation, which shall not exceed that which the State should be compelled to pay in a similar case.

ARTICLE XXIII.

The Republic of Nicaragua, desiring to assist the company efficaciously in the construction of the Interoceanic Canal, a work in which it takes the deepest interest, cedes in fee simple to the said company the public lands hereinafter mentioned, in alternate lots with other similar ones which it reserves to itself, and of

the dimensions and in the places as specified hereinafter:

1st. On the left bank of the River San Juan, from the Atlantic to Castillo Viejo, lots of three miles frontage on the canal and six miles in depth from the banks of the river. Where the canal diverges more than six miles from the banks of the river the lots are to be measured on both sides of it and shall be three miles wide and six miles deep. And where this distance is less than six miles the lots shall be three miles front and three miles deep, and they shall be measured from the bank of the canal to the river, taking what may be lacking from the opposite bank

2d. Three miles distant from Castillo upstream, on the right bank and up to the lake, lots of two miles in depth and two of frontage on the canal. From the lake along its south shore to the River Sapoá and thence to the River Lajas, lots of one mile frontage and one mile depth. On the left bank of the river, from a point in front of Castillo and up to the lake, lots of three miles of frontage on the canal

and four miles in depth.

3d. On the north shore of the lake as far as the River Tule, lots of two miles

frontage on the lake and two miles deep.

4th. In the places which the company selects in accordance with the government of the existing public lands, forty (40) lots, each four miles frontage by five miles deep, reserving always the acquired rights.

It is understood that the Government reserves around each of the forts Castillo and San Carlos the lands included in a circle of one and one-half (11) miles radius.

whose center shall be the respective fortresses.

As a general rule, at the extremities of the Interoceanic Canal and at its points of contact with the lake, the opposite lots will be allotted one to the Government and one to the company, but if this be not possible, the first will belong to the Government.

From the Atlantic to the lake, that part of the river bed occupied by the canal shall be considered as part of the latter for all purposes of this article.

The measurement and setting out of all lands ceded by this contract shall be made at the expense of the grantees under the supervision of the Government.

The State shall vest in the company the possession of said lands so soon as the said company shall begin operations on the canal. Operations shall be regarded as begun when the provisions set forth in article 47 shall have been complied with. The final title deeds shall not be granted except as the work of the canal progresses and in due proportion.

ARTICLE XXIV.

In the unforeseen case that a new survey should show the necessity of adopting another line for the construction of the canal, which varies wholly or in part from the line set forth in article 13, the company shall have the right to the lands and other elements necessary for the construction of the canal according to articles 16, 17, 18, 19, 21, and 22.

The company shall, in that event, also have the right to the lands mentioned in the preceding article in the same proportions, conditions, and dimensions therein established, with the single proviso that if it alter the line the localities whence

these lands shall be taken shall be altered accordingly.

ARTICLE XXV.

The State reserves the right to occupy in the several lots of land granted the company such places as it may need for such roads and public buildings as it may deem convenient. In the same manner it may use timber and other building materials found on such lands whenever they may be necessary for any work upon which it may determine. However, these lands, with all their products, vegetable and mineral, shall be subject to the laws of the country so soon as they

become the property of individual citizens by transfer from the company, and then, should the State need them for the ends set forth in this article, or for any others, it shall make compensation to their owners according to law, without any right on the part of the expropriated owners to reclaim against the company.

right on the part of the expropriated owners to reclaim against the company.

Should the company have improved the lands so taken for purposes of use, ornament, or pleasure, the State shall be bound to reimburse it for such damages

as it may have suffered, according to the assessment of experts.

ARTICLE XXVI.

Mines of coal, stone, gold, silver, iron, or other metals situated in the lands granted to the company, shall belong to it by right, without need of previous "denunciation," it having the right to work them when considered expedient, subject to the laws of the country.

ARTICLE XXVII.

The company shall also have the right to utilize for its account, for sale or exportation, the lumber in the forests situated in the lands ceded to it by the State, from the time they enter into possession of them in accordance with this contract—that is, from the time of commencement of the works—always saving the acquired rights.

ARTICLE XXVIII.

From the day on which the present concession is ratified by Congress the public lands included in those necessary for the construction of the canal can not be sold, nor can any of those ceded to the company on the banks of the canal, by article 23, nor can they be leased to the prejudice of the company.

ARTICLE XXIX.

The company shall have the right, throughout the extent of the canal, as well as at its mouths on both oceans, and in the lake and throughout the extent of the lands ceded by virtue of articles 16, 17, 22, and 23, to enter upon the work of locating, leveling, excavating, dredging, and in general any other work of whatsoever nature that may be judged useful for the establishment and feeding of the canal, or for its operation, preservation, and maintenance. The company is specially authorized to execute along the canal line and on the banks of the River San Juan and its affluents, within the territory of Nicaragua, and also on the tributaries of Lake Nicaragua, the lakes or water courses which can be utilized in their flow to the Pacific, the system of dikes, rectifications, dredgings, embankments, dams, cuts, location of buoys, and in general all the works that in the opinions of the engineers of the company are deemed indispensable for the construction, feeding, navigation, and operation of the canal. The company may also do all works of like character deemed necessary at the entrances of the canal into Lake Nicaragua, as well as in the lake itself, in accordance with the route that may be determined upon in order to secure in it easy navigation, and as may be found necessary in the other lakes or lagoons that are to be traversed.

The embankments, fillings, and dikes formed in the mouths of the canal, in the lake, and in the ports on the oceans, by deposits of materials resulting from the excavations of the canal, shall belong in fee simple to the company; the Government having the right to use them if necessary, after compensation made. But it may never obstruct said ports nor widen the beaches in front of them, unless there is absolute necessity to do so, and in this case the embankments and fillings that it may be necessary to construct in front of the ports shall belong to the

Republic.

In general, the company shall have the right to use all the lakes and rivers of Nicaragua, the waters of which may be necessary, in the judgment of the engineers of the company, for the construction and supply of the canal and for maintaining its operations. It being understood that the damages caused to private parties by the deviation of the water courses shall be compensated for by the company according to a just assessment by experts in agreement with the laws of the Republic.

ARTICLE XXX.

The company shall not import merchandise into the territory of the Republic for the purpose of trafficking without paying the import duties established by law. But it may import free of custom duties, and of any tax whatsoever, the articles

needed for the works of the enterprise, such as surveys, examination of localities, construction, use, of eration, maintenance, repairs, and improvements of the canal; for the telegraphic service and for that of the railways; for running the workshops the company may keep in operation: and such articles may consist of tools, machinery, apparatus, coal, limestone of all classes, lime, iron, and other metals, raw or manufactured, mining powder, dynamite, or any other analogous substance. These articles may be transported between whatever points they may be required during the works of opening of the canal, and be discharged and stored free of all local taxes.

The company may import free of duties and taxes, during the work on the canal, provisions and medicines absolutely necessary for its own consumption. Goods the commerce of which is not free are excepted from the privileges contained in this article. which goods, excepting powder, dynamite, and other explosives, remain subject to the requisites and duties prescribed by the laws.

ARTICLE XXXI.

The vessels employed by the company as tugboats or for the service of the canal shall be free from all duties, and also the materials for their repair and the fuel they use. The vessels and appurtenances from whatever place they may be coming for the use of the company shall also be exempt from all duties.

ARTICLE XXXII.

The Government will establish such regulations as it may judge necessary to prevent smuggling and to maintain public order in the region of the canal.

The company is bound to lend its assistance for the enforcement of such regulations. But in the free zone along the margin of the canal, as hereinafter provided, measures for the prevention of smuggling shall be limited to vigilance on the part of the employé or employés whom it may concern without any further measures being taken against passengers, vessels, or their cargoes, except when an attempt at smuggling is discovered; it being the intention of the State that there should be the most ample liberty of transit by the canal for persons and property, with the sole limitations established by this contract. Consequently the company shall have the right to discharge and reload ships in transit at such points as may be necessary in order to make repairs, lighten the vessel, shift cargo, or on account of any a cident that renders it absolutely necessary, without being subject to search, exactions, or contributions of any kind, provided that in each case, and before beginning operations, the nearest custom-house authorities shall be notified.

ARTICLE XXXIII.

The Government shall lend its protection, in conformity with the laws of the country, to the engineers, contractors, employés, and laborers engaged in the preliminary surveys, or in the work of construction and operation of the canal.

ARTICLE XXXIV.

The company shall be exempt from all forced loans and military exactions in time of peace and of war. The foreign agents and employes shall likewise be exempt from direct contributions, forced loans, and military exactions during the time they are in the service of the canal, but they shall pay the taxes established by the laws, if they acquire real property.

ARTICLE XXXV.

The company may freely introduce immigrants into the lands ceded to it. and the employes and workmen needed in its works and workshops. Asiatics, however, are excepted. Both the immigrants and the employes and workmen will be subject to the laws of the Republic and the regulations of the company. The Government assures them aid and protection, and the enjoyment of their rights and guarantees in conformity with the constitution and the national laws during the time they remain on Nicaraguan territory.

ARTICLE XXXVI.

The Government of Nicaragua assures to the company and its agents, under the laws of the country as it does to the other inhabitants, the full enjoyment of the guarantees and rights which the constitution and the same laws grant to them. And reciprocally the company and its agents bind themselves strictly to respect the laws and regulations that are in force in Nicaragua, and especially to comply with the executory judgments of the tribunals without considering themselves vested with other rights than those which the laws concede in favor of the Nicaraguans.

ART CLE XXXVII.

The Government shall establish all along the line of the canal, including between the two terminal ports, such police stations and revenue offices as in its judgment are necessary to preserve order in the region of the canal, and for the observance of the fiscal laws of the Republic. All expenses incident to this service, including those of buildings, endowments, salaries and allowances of employes, and transportation of the forces, shall be paid to the Government by the company on such terms and conditions as may be established, taking into consideration the requirements and necessities of such service. The company, however, shall have the power to establish guards and watchmen for the service of the canal and the enforcement of its regulations.

ARTICLE XXXVIII.

Contracts for labor on the canal shall enjoy the privileges which the laws of the country afford to agricultural contracts, provided they be clothed with the formalities that the laws require in such contracts. And the contracts in regard to canal labor that the company execute in foreign countries shall be valid and lawful in Nicaragua during the term stipulated in them, provided they do not violate the laws of the Republic; provided also the documents containing them be presented to the proper authorities, with due authentication, that they may be registered.

ARTICLE XXXIX.

The company shall be exempt during the period of this concession, in peace and in war, from all manner of taxes upon the real property it may acquire by virtue of this contract, and from every kind of direct contributions, local taxes, or any other tax relating to the property and use of the canal, its buildings and constructions appertaining thereto, in its entire length, including those that are situated in the ports and maritime establishments on the two oceans, as also the lands conceded to the company for the whole term of the privilege. This franchise is not assignable to those who buy the real estate which the company may dispose of by virtue of this concession.

ARTICLE XL.

The Republic of Nicaragua shall not establish any tonnage, anchorage, pilot, light-house dues, or charges of any kind whatsoever upon vessels of whatever class, or upon the merchandise, baggage, and passengers which may pass through the canal from one ocean to the other, all such dues being reserved for the benefit of

But all such merchandise as shall be loaded or discharged at any point of the canal, intended for sale, shall pay the import and export duties fixed by the revenue laws of the State.

ARTICLE XLI.

With the view of securing the most ample freedom in the transit of persons and property, and in order to remove as far as possible occasions for disagreeable questions, there shall be on each side of the canal a free zone. the extent of which shall be one hundred yards, measured from the water's edge in the canal, it being understood that the borders of the lake shall not be considered as margin of the canal for the purposes of this stipulation.

All traffic declared illegal by the laws of the Republic shall be prohibited within the said zone, and the revenue authorities charged with watching and preventing smuggling shall act in conformity with the stipulations in Article XXXII.

It is expressly agreed that every vessel that passes through the canal shall carry on board an officer named by the Government when the authorities think it necessary, and this employé shall act in conformity with the law in case he discovers its infringement.

The two ports to be constructed for the entrance and exit of the canal on the two oceans shall be declared free ports, and they shall be recognized as such from

the beginning of the work to the termination of this concession.

The Government in agreement with the company shall establish, by special decree, the limits of the freedom of these ports, which limits shall not extend the waters of the port, which are those included between the mouth of the canal and the entrance to the said ports.

ARTICLE XLII.

For the proper administration of the canal and its appurtenances, and in order to facilitate its construction and operation, the company shall establish the necessary regulations, which shall be binding on all persons found in its waters or its appurtenances, the sole reservation being that the rights and sovereignty of the

State be respected.

It being understood that the company in the exercise of the powers conferred by this article may not make other regulations than those necessary for the administration and particular management of the canal, and that before executing and enforcing these regulations they shall be submitted to the Government for approval, the State will lend the aid of its authority for the enforcement of these regulations.

ARTICLE XLIII.

By way of compensation for the expense of surveys, construction, maintenance, and operation of the canal, which under the present concession shall be at the cost of the company during the period of said privilege, it shall have the right to establish and collect for the passage of all kinds of vessels, travelers, and merchandise through the canal, and in the waters and ports pertaining to it, taxes on navigation, tonnage and pilotage, towage, storage, lay days, anchorage, light, roadstead dues, wharlage, hospital dues, and any other similar charges in conformity with the tariff to be established by it in accordance with Article LII of this contract.

These tariffs may be modified by the company at any time on condition that all modifications that may be introduced shall previously be communicated to the Government, which, in case of finding them within the limits established by the said Article LII, shall cause them to be complied with as if they were regulations

enacted by itself.

The payment of all the tariff dues shall be exacted without any exception or preference, and under identical conditions, from all vessels, whatever be the place they come from or their nationality, with the exception stipulated in the following article:

ARTICLE XLIV.

As compensation for the privileges and concessions that Nicaragua grants by this contract, it is hereby stipulated that the Republic shall enjoy the special privilege that Nicaraguan vessels sailing under the Nicaraguan flag may navigate the canal at a reduction of fifty (50%) per centum from the general tariff while engaged in the coasting trade or in the reciprocal trade with the other Republics of Central America. It is declared that the vessels referred to in the preceding paragraph must be exclusively of the register of the Republic, and they must not be owned, either in whole or in part, by citizens of other countries.

A reduction of fifty (50%) per cent from the general tariff is also granted to vessels that begin their voyage for a foreign country in any of the ports belonging to

A reduction of fifty (50%) per cent from the general tariff is also granted to vessels that begin their voyage for a foreign country in any of the ports belonging to the Republic, with a cargo wholly composed of products of the country. All the privileges to which this article refers shall be extended to the other Republics of Central America whenever Nicaragua shall find itself free from international obligations which may prevent it, or whenever one or more of the said Republics shall form a single nation with Nicaragua. The company can not collect any navigation dues whatever upon vessels and craft navigating the Lake of Nicaragua and its

prolongations without passing out of the locks. The Nicaraguan vessels of war, and, in the case above provided, those of the Republic of Central America, shall not pay any dues on passing through the canal.

ARTICLE XLV.

In case it may be possible to utilize the waters of the canal and its dependencies for irrigation of plantations, gardens, and streets, or for the supply of towns that may be without it, or as motive power for private enterprises, the company shall have power to supply it, collecting dues in proportion to the amount furnished, according to the tariff that it may establish in agreement with the Government.

ARTICLE XLVI.

In view of the existence of an exclusive privilege granted by the Republic in favor of Mr. F. Alf. Pellas, by a contract ratified on the 16th of March, 1877, for the navigation by steam on the lake and river for the purposes of the internal commerce of the Republic, the canal company shall have the right of expropriation against Mr. Pellas, as regards his rights and properties, on just assessments by experts, after making a corresponding compensation according to the laws of the Republic.

It is also stipulated that the company binds itself to pay to the Government of the Republic all it may from now on expend in any way for the improvement of the navigation of the river and the port of San Juan del Norte. This payment shall be made within six months of the date of the beginning of the works of the

canal, and according to the original accounts of the corresponding office.

ARTICLE XLVII.

The company shall undertake at its expense the final surveys of the ground and the location of the line of the canal by a commission of competent engineers, two of whom shall be appointed by the Government of the Republic, which shall protect

as far as it may the said commission.

There is granted to the concessionary company a term, not exceeding one year, in which to commence the final surveys for the canal, and one year and one-half additional for completing them, to organize the executing company and commence the work of construction. Said terms shall begin to be counted from the date of the ratification of the present contract by the Nicaraguan Congress, published in the official paper, which shall be construed as notification. Furthermore, said terms are not to be extended, and it is understood that operations are not considered to have been begun if during the first year of the work two million dollars (\$2,000,000) are not expended on it.

ARTICLE XLVIII.

A term of ten years is also granted to the company for the construction, completion, and opening of the canal for maritime navigation. However, should events of main force arise duly justified, and sufficient to impede the regular progress of the works during the period of the said ten years, an extension shall be granted equal in duration to the time that may have been lost by such delays.

If, at the expiration of the ten years aforesaid, the works should not be completed so as to have the maritime communication between the two oceans opened, in consideration of the great capital the company may have invested in the enterprise, and of the good will and ability it may have shown, and the difficulties encoun-

tered, the Republic binds itself to concede a new extension.

ARTICLE XLIX.

As a guaranty of the fulfillment of the obligations which the company incurs in accordance with article 47 it shall deposit to the order of the Government of Nicaragua, in a bank or in a mercantile house in the city of New York, which the Government may designate, and within sixty (60) days from the date of the ratification of this contract, the sum of one hundred thousand (\$100,000) dollars, American gold, which the company shall forfeit to the Republic if it do not fulfill

the said obligations, and which sum otherwise shall be considered an advance to the Government on account of the necessary expenses of payment of the police of the canal, according to the stipulations set forth in article 37. This deposit, as soon as made, shall be at the disposal of the Government.

ARTICLE L.

. In consideration of the valuable privileges, franchises, and concessions granted to the company by this contract, the Republic shall receive in shares, bonds, certificates, or other securities which the company may issue to raise the corporate capital, six per centum of the total amount of the issue.

Such shares, bonds, certificates, or other securities shall be free of all payment on the part of the Republic, being considered as paid in full. The six per centum shall in no event be less than four million dollars (\$4,000,000); that is to say, forty thousand shares or obligations of whatsoever kind of one hundred (\$100)

dollars each.

Of said shares, bonds, certificates, or securities of whatsoever class, two-thirds shall not be transferable: but all shall participate in the benefits, interests, partitions, dividends, sinking fund, rights, privileges, and in all the advantages given to paid-up shares without any distinction. The Government, in its capacity of share-holder, shall besides have the right to appoint one director, who shall represent its interest in the board of directors of the canal company from the time of its definite establishment. The shares referred to in this article shall be delivered to the agent the Government may appoint to receive them, and as soon as the company shall be ready to issue the certificates for its capital.

ARTICLE LI.

In order that the canal association may indemnify itself for the expenses it may have had to incur for the verifications, preparations, explorations, and surveys hereinbefore mentioned, and for all other expenditures that it will have to make until the definite organization of the company, it shall have the right from the time of the organization of said company to six per cent in shares, bonds, certificates, or other securities which the company may issue for the purpose of raising the corporate capital, and which are to be issued in excess of the capital to be subscribed.

These bonds, shares, or securities shall be identically like the subscription shares, and issued from the same register or stock book. As a consequence they shall participate in all benefits, interests, partitions, dividends, sinking fund, rights, privileges, and of all the advantages given to the paid-up shares, bonds, or

securities without any distinction whatever.

ARTICLE LII.

From the receipts of the enterprise the company shall take in the first place the necessary amount to cover all the expenses for maintenance, operation, and administration: all the sums necessary to secure the interest, which shall not exceed six per centum, and the amortization of the obligations and of the shares, and what remains shall form the net profits, of which at least eighty per centum (80 per centum) shall be divided among the shareholders, it being agreed that after the lapse of ten years after the completion of the canal the company shall not divide among the shareholders in payments of dividends, directly or indirectly, by issue of shares or otherwise, more than 15 per centum (15 per centum) annually or in this proportion, from dues collected from the aforesaid canal; and where it shall appear that these dues yield a greater profit, they shall be reduced to the fixed limit of fifteen per cent per annum.

ARTICLE LIII.

The present concession shall be forfeited:

1st. Through the failure on the part of the company to comply with any of the conditions contained in articles 8, 46, 47, 48, and 49.

2d. If the service of the canal, after its completion, be interrupted for six

months, except in cases of main force.

When the concession shall have been declared forfeited, from whichever of these causes, the public lands granted by this convention will revert to the Republic, in whatsoever state they may be and without compensation even in the case that buildings may have been erected thereon.

Such lands shall be excepted as may have been alienated to private parties by the company, with the formalities prescribed by law, provided that such alienations shall not have taken place within the six months preceding the date on which the company may have become legally liable to the penalty herein established.

ARTICLE LIV.

On the expiration of the ninety-nine years stipulated in this concession, or in the event of the forfeiture contained in the preceding article, the Republic shall enter upon possession in perpetuity of the canal, of works of art, light-houses, storehouses, stations, deposits, stores, and all the establishments used in the administration of the canal, without being obliged to pay any indemnity to the company.

tration of the canal, without being obliged to pay any indemnity to the company. There shall be excepted from this condition the vessels belonging to the company, its stores of coal and other materials, its mechanical workshops, its floating capital, and reserve fund, as also the lands ceded to it by the State, excepting those in which are established the works indicated in the first part of this article, and which will revert to the State, together with their immediate appurtenances, as nec-

essary for the service of the canal and as an integral part of the same.

But the company shall have the right at the exp ration of the aforesaid term of ninety-nine years to the full enjoyment of the free use and control of the canal in the capacity of lessee, with all the privileges and advantages granted by the said concession and for another term of ninety-nine years, on the condition of paying twenty-five per cent of the annual net profits of the enterprise to the Government of the Republic, besides the dividends due to it for its shares in the capital stock. The company furthermore shall have the right to fix at its discretion the dues

The company furthermore shall have the right to fix at its discretion the dues referred to in article 43 of this concession, so that the shareholders still receive dividends not to exceed ten per centum per annum on the whole capital after deducting the payment of twenty-five per cent of the net gains to the Government.

At the expiration of this second term of ninety-nine years the Government shall enter into perpetual possession of the caual and other properties referred to in the first part of this article, including a'so in this possession all that which is excluded in the said first part, with the exception of the reserve and amortization funds. The failure to comply with any of the terms of the lease shall terminate it, and the State shall enter into possession of the canal and other works belonging to it in accordance with the provisions of the preceding paragraph.

ARTICLE LV.

Any misunderstanding that may arise between the State of Nicaragua and the company in regard to the interpretation of the present stipulations shall be submitted to a court of arbitrators composed of four members, two of which shall be appointed by the State and two by the company.

be appointed by the State and two by the company.

These arbitrators shall be designated by each of the parties within the period of four months from the day on which one of the contracting parties shall have informed the other in writing of the want of agreement on the point at issue. Should one of the parties allow the aforesaid term to pass, it shall be considered as

assenting to the opinion or claim of the other.

The majority of the votes of the arbitrators shall decide finally and without recourse. In case of a tie vote the arbitrators shall select, by mutual consent, a fifth person, who shall decide. If unable to agree to such nomination, they shall draw by lot the names of the diplomatic representatives accredited to Nicaragua, and the first one drawn out shall exercise the functions of the fifth arbitrator; he shall either adopt the opinion of one or the other of the parties to the controversy, or render his opinion between these extremes, and his decision shall be final and without any appeal whatever; the fifth arbitrator failing, the second person drawn shall exercise these functions, and so on successively until a decision is reached.

Prior to the initiation of the works of opening the canal the Government shall formulate, with the concurrence of the company, rules to be observed by the arbi-

trators in all matters relating to procedure.

Questions between the company and individuals residing in Nicaragua shall be under the jurisdiction of the ordinary tribunals of Nicaragua, in conformity with the legislation of the country. In matters pertaining to nonresidents of Nicaragua the rules of international private law will be observed.

In witness of the foregoing stipulations we have signed two instruments of the same tenor in Managua on the 23d day of March, one thousand eight hundred and

eighty-seven.

AD. CARDENAS. A. G. MENOCAL. The Government finding the foregoing contract in conformity with the instructions transmitted, determines to approve it in all its parts and to submit it to Congress for its ratification.

Managua, April twelfth, one thousand eight hundred and eighty-seven.

E. CARAZO.

The acting subsecretary of the interior.

CANTON.

Done in the hall of sessions of the chamber of deputies, Managua, April 20, 1887.

Tomás Armijo.

LEOPOLD M. MONTENEGRO.

Luis E. Saenz, To the S. E. P., hall of the Senate, Managua, April 23, 1887.

JOAQUIN ZAVALA.

S. MORÁLES.

ELIODORO RIVAS.

Therefore, be it executed. Managua, April 24, 1887.

E. CARAZO.

The subsecretary of the interior in charge of the office.

ALEJANDRO CANTON.

Accepted on the same date.

Canton.

A. G. MENOCAL.

I do hereby certify the preceding signature of the subsecretary of the interior, which reads Alejandro Canton, to be genuine.

Managua, April 25, 1887.

JOAQUIN ELIZONDO.

FIFTIETH CONGRESS, FIRST SESSION

March 22, 1888.

[Senate Report No. 726.]

Mr. Payne, from the Committee on Foreign Relations, submitted the following report:

The Committee on Foreign Relations, to whom was referred House joint resolution No. 83, beg leave to report the same and recommend

its passage with certain amendments.

The amendments, providing for an increased allowance for salary and personal expenses of the commissioner-general and associate commissioner-general and of the scientific experts, are based upon the consideration that their services will, presumptively, extend through a period of the greater part of two years. The sums named in the House resolution were framed according to the corresponding provisions for these services at the Paris Exposition of 1878, and attendance upon which, in representation of the United States, occupied less than a year.

Another amendment omits the provision for the appointment of honorary commissioners by the governors of the respective States. The experience of this arrangement, as carried out at the exposition of 1878, was such as, in the opinion of the committee, should not lead to

its renewal at the exposition now to be provided for.

Another amendment omits the provision for transportation to and from France free of cost, in public vessels, of articles to be offered for exhibition by citizens of the United States. The experience as to this use of public vessels has shown that it was extremely expensive to the Government and attended by inconvenience and embarrassment to all interests.

Upon these two last-mentioned amendments the committee have found very instructive the suggestions of Commissioner-General Mc-Cormick on these points, made in his report to the Secretary of State upon the conduct and results of the exposition of 1878, and in making these amendments the committee have given great weight to the following observations in that report:

The clause in the resolution of Congress authorizing the President, in his discretion, to assign one or more of the public vessels to transport to and from France, free of cost, articles offered for exhibition by the citizens of the United States, was doubtless inserted from good motives and in respect to the popular sentiment that it would be a graceful act to employ the Government vessels in the international service in the interest of peace and industry.

It proved, however, to be a costly mistake. The first class vessels of our limited Navy were all engaged in important service. Beyond the small steamer Wyoming, sailing ships only could be assigned to the duty. These were, without exception. old and poorly adapted to freight. The expenditure of a considerable sum of

money was necessary to prepare them for sea, and when made ready they were found to be difficult to load and stow.

Taking into account the expense to the Government in preparing the ships for sea, the inconvenience of keeping them for many months at Havre, and the serious delays in transporting the goods of exhibitors to and from Europe, it would have been far better and cheaper for Congress to have given authority for the transportation of freight by mail steamers. Goods would have been in transit but a few days instead of many weeks, and our department at the exposition would have been in condition much sooner than it was, and the business of the office of the commissioner-general on this side of the Atlantic might have been completed some months earlier.

The provision in the Congressional legislation relating to our representation in Paris in 1867, and also to our representation in Vienna in 1873, by which the appointment of a large number of honorary commissioners was authorized, had so clearly proven an impolitic one, that it was surprising to all who had given the subject attention that it should have been reenacted in the resolution touching the expo-

sition of 1878.

After the additional commissioners who were selected to prepare reports upon the exposition, the sending of 24 honorary commissioners, under direct appointment of the President, might have been understood, but the sending of 2 more from each State, on the nomination of the governors, and of still another class chosen by the governors without Presidential approval (of which class 50 came to Paris during the summer and autumn) was, to the exposition authorities, an almost inexplicable procedure, no other country having sent nearly so large a number.

Simply to receive them and their traveling companions consumed much of my time and that of my clerks, which should have been given to the exhibitors and jurors. In scarcely an instance could they render any service, and realizing what an empty honor their appointment conferred, and how reluctant the authorities were to recognize them, their position was anything but a pleasant one. Moreover, their coming was not without expense to the Government, for, while under the resolution of Congress they were not allowed pay or compensation, their presence necessitated certain increased expenditures in the way of office accommodations, stationery, etc., and to obtain admission for them to the efficient extension. tions, stationery, etc., and to obtain admission for them to the official entertainments was at times a difficult matter.

The increase of the appropriation for the coming exposition, and the proper representation of the United States there, to \$300,000 is based upon the consideration already mentioned, that the preparation, attendance, and subsequent expenses upon this occasion will occupy quite twice as long as in 1878, and upon the experience and instruction gained by the representation of this Government at that exposition and communicated by the valuable report thereon of Commissioner-General McCcrmick.

The last are endment, by which the House resolution providing spe-

cific arrangements in reference to a special (however important) interest in the products of this country is omitted needs no further observation than that the committee regarded it as inappropriate to the occasion in which the Republic of France is celebrating the centennial of the great political event of the fall of the Bastile in 1789—an event which that great and most friendly Republic marks for the date of its celebration of French liberties, as the United States have marked the 4th of July, 1776, as the date of the foundation of our liberty and independence.

The committee include as a part of this report the House report which accompanied the House resolution, and recommend the passage of the joint resolution in the spirit of a cordial acceptance of the invitation of the French Republic to participate in this centennial celebration, and in the purpose of promoting the interests of agriculture,

manufactures, and commerce of the United States.

[House Report No. 135, Fiftieth Congress, first session.]

Mr. Belmont, from the Committee on Foreign Affairs, submitted the following

report:

The Committee on Foreign Affairs, to whom were referred a message from the President of the United States (Ex. Doc. 69) transmitting a report from the Secretary of State relating to an invitation from the Government of France to participate in the international eshibition to be held in Par.s in 1889, and also a joint resolution (H. Res. 83), respectfully report thereon as follows:

On the 6th of April lass, shortly after the close of the Forty-ninth Congress, the

Government of the French Republic, through its legation in Washington, formally asked the cooperation of this Government in the celebration of a world's exhibition to be opened in Paris on the 5th of May, 1889. The general purposes of this exhibition are such as should enlist the earnest sympathy of the United Its primary object is to receive the works of art and the productions of the industry and agriculture of all nations. The exhibition is to be divided into

(1) Works of art; (2) education, and processes used therein; (3) plain and decorative house furniture; (4) textile fabrics; (5) the raw and manufactured products of mining, forestry, chemistry, etc.; (6) apparatus and methods of mechanical industries; (7) food products; (8) agriculture, vine culture, and fish culture; (9)

horticulture.

In nearly all these branches of industry it is believed that the United States has made great progress since its participation in the World's Exposition held in Paris in 1878. If no other considerations presented themselves it would therefore be desirable for the advancement of the commercial interests of the United States that the invitation thus extended by the F ench Republic should be accepted. But there are other reasons which can properly be regarded by the Congress of the United States. This nation can not fo get its obligations to France for the a-sistance rendered in its early struggle: for freedom. On many occasions sin e, notably in the presentation by the French people of the Statue of Liberty which now adorns New York Harbor, the sympathy and good will of the French nation

toward the United States and its Govern went have been in inifested.

The people of the United States have wat hed with gratification the firmness of purpose and self-control with which the French nation has maintained and increased its hold upon republican institutions in recent times of menace and peril. The year 1889 will be the centennial of events in France which gave impetus to the establishment of republican institutions throughout the world. It is clearly the duty of the Congress of the United States to promptly take action upon the invitation extended and thus to proclaim in the most emphatic manner its approval of this important project. Your committee therefore recommend that the invitation of the Government of France to participate in the International Exhibition to be held in Paris in 1889, transmitted to Congress by the President of the United States in his message of the 12th instant, here to annexed, be accepted, and in order that such acceptance may be carried out in a bee ming manner they further recommend the passage of the accompanying joint resolution as amended.

[Fiftieth Congress, first session. H. Res. 83.]

JOINT RESOLUTION accepting the invitation of the French Republic to take part in an international exposition to be held in Paris in eighteen hundred and eighty-nine.

Whereas the United States have been invited by the Republic of France to take part in an exposition of works of art and the products of manufactures and agriculture of all nations, to be held in Paris, commencing the fifth day of May and closing the thirty-first day of October, in eighteen hundred and eighty-nine: Therefore,

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That said invitation is accepted, and that the governors of the several States and Territories be, and are hereby, requested to invite the people of their respective States and Territories to assist in the proper representation of the productions of our industry and of the natural resources of the country, and to take such further measures as may be necessary in order to secure to their respective States and Territories the advantages to be derived from this

beneficent undertaking.

SEC. 2. That the President, by and with the advice and consent of the Senate, shall appoint a commissioner-general to represent the United States in the proposed exposition, and, under the general direction of the Secretary of State, to make all needful rules and regulations in reference to the contributions from this country and to control the expenditures incident to the proper installation and exhibition thereof; the pay of jurors, and the preparation of the reports on the exposition, and the general results thereof; and an assistant commissioner-general, who shall perform the duties of commissioner-general in case of his death or disability; and that the President may also appoint nine subcommissioners, and said subcommissioners shall be scientific experts, corresponding to and specifically assigned to the nine groups into which the exposition will, under the official regulations, be divided; that the allowance to said commissioner-general for salary and personal expenses shall not exceed five thousand dollars for his whole term of office; that the allowance of said assistant commissioner-general for salary and personal expenses shall not exceed twenty-five hundred dollars for his term of office, and the allowance of the nine subcommissioners for salary and personal expenses shall not exceed twelve hundred dollars each, not including such clerical service as may be allowed by the commissioner-general, which shall not exceed fifteen thousand dollars; and the governors of the several States may nominate and the President appoint one honorary commissioner from each of the several States, and the President may appoint one honorary commissioner from each of the several Territories, which said honorary commissioners may report upon such special subjects as the commissionergeneral may direct, and shall serve without pay or other expense to the United States: Provided, That no person appointed by virtue of this resolution shall have any pecuniary interest, directly or indirectly, in any article exhibited for competition or act as the agent for any exhibitor.

Sec. 3. That the President be authorized, in his discretion, to assign one or more of the public vessels to transport to and from France, free of cost, under regulations to be prescribed by the commissioner-general, such articles as may be offered

for exhibition by the citizens of the United States.

Sec. 4. That in order to defray the necessary expenses above authorized, and for the proper installation of the exhibition, and the expenditures of the commissioner-general, made under the direction of the Secretary of State, and with his approval, and not otherwise, there be, and hereby is, appropriated, out of any money in the Treasury of the United States not otherwise appropriated the sum of two hundred thousand dollars, or so much thereof as may be necessary for the purposes herein specified, which sum shall be expended under the direction of the Secretary of State; and out of such amount the Commissioner of Agriculture is hereby authorized to collect and prepare, as far as practicable and with as little delay as possible, suitable specimens of the agricultural productions of the several States and Territories of the Union for exhibition at the Paris exposition.

Sec. 5. That it shall be the duty of the Secretary of State to transmit to Congress a detailed statement of the expenditures which may have been incurred under the provisions of this resolution, together with all reports called for under section two of this resolution, which report shall be prepared and arranged with a view to

concise statement and convenient reference.

[House Ex. Doc. No. 69, Fiftieth Congress, first session.]

Message from the President of the United States, transmitting a report from the Secretary of State, relating to an invitation from the Government of France to participate in the international exhibition to be held at Paris in 1889.

To the Senate and the House of Representatives:

I transmit herewith a report from the Secretary of State in relation to the invitation from the Government of France to this Government to participate in the international exhibition which is to be held at Paris in 1889.

GROVER CLEVELAND.

EXECUTIVE MANSION,
Washington, January 12, 1888.

To the PRESIDENT:

I transmit herewith a translation of a note from Mr. Roustan, the minister of France at this capital, extending an invitation to this Government to participate

in the international exhibition which is to be held at Paris in 1889.

The benefits which the commerce, the manufactures, the sciences, and the arts of this country derived from the taking part in the great international exhibitions which have heretofore been held at Paris are so numerous and obvious as to commend to this Government the propriety of accepting the present invitation. That the popular interest in the proposed exhibition is very great is manifest from the numerous inquiries relative to it, representing the most important business interests, which have been received by the Department from all parts of the country.

I therefore recommend that the accompanying papers be laid before Congress, and that that body be asked to enact a law authorizing the President, by and with the advice of the Senate, to appoint a commissioner-general to represent the United States in the proposed exhibition, and, under the general direction of the Secretary of State, to make all needful rules and regulations in reference to the contributions from this country, and to control the expenditures incident to the proper installation and exhibition thereof, and to the preparation of the reports on the exhibition.

I furthermore recommend that the sum of \$200,000 be appropriated, out of any money in the Treasury not otherwise appropriated, to be expended, or so much thereof as may be necessary, in defraying the necessary expenses of the proper installation of the exhibits of American citizens and the expenditures of the commissioner-general, made under the direction of the Secretary of State and with his approval

I also recommend that provision be made by law for the reentry, free of duty, under such regulations as the Secretary of the Treasury may prescribe, of all articles and merchandise which may be sent from this country to the exhibition in

Respectfully submitted.

T. F. BAYARD.

DEPARTMENT OF STATE,
Washington, January 12, 1888.

No. 1.

Mr. Roustan to Mr. Bayard.

[Translation.]

LEGATION OF THE FRENCH REPUBLIC, Washington, April 6, 1887.

MR. SECRETARY OF STATE: By a decree bearing date of November 8, 1884, the President of the Republic decided that a world's exhibition should be opened at Paris on the 5th of May, 1889, and closed on the 31st of October following.

I am instructed by my Government to notify you of the opening of this international exhibition, and, in view of the deep interest that is felt in having all nations participate in this enterprise of peace and labor, to ask the cooperation of the United States Government.

To this effect, I have the honor herewith to transmit to you two copies of a pamphlet containing the general regulations and the text of sundry official documents

having reference to the organization of the various branches of the exhibition and to the admission of productions; also the text of the law of July 6, 1886, relative to

financial guaranties.

I should be very grateful to you, Mr. Secretary of State, if it were possible for you to enable me soon to make known at Paris the decision adopted by the United

States Government.

Be pleased to accept, Mr. Secretary of State, the assurances of my very high consideration.

TH. ROUSTAN.

Hon. T. F. BAYARD, Secretary of State of the United States.

WORLD'S EXHIBITION OF 1889.

LAW OF JULY 6, 1886.

ARTICLE I.

The convention concluded by the minister of commerce and industry, representing the State; the prefect of the Seine, representing the city of Paris, authorized by the decision of the municipal council of March 31, 1886, and the governor of the Credit Foncier, acting for the Guarantee Association, which is to be established for the World's Exhibition of 1889, is hereby approved.

No expense shall be incurred beyond the amount of 43,000,000 francs, for which provision is made by Article I of this convention, unless provision shall previously

have been made therefor by a special law.

Such proceeds as may accrue from payments required of exhibitors for the space assigned to them shall not enter into the computation of the receipts provided for by Article V of the convention beyond the amount necessary to make the total receipts 18,000,000 francs.

ARTICLE II.

The State shall contribute to the expense of the exhibition of 1889 by an appro-

priation of 17,000,000 francs.

This appropriation shall be charged (to the amount of 12.693.635 francs) to the loan of 80,000,000 francs made to the State by the Bank of France in pursuance of the convention of March 29, 1878, approved by act of the 30th of June following.

In case the expenses shall amount to less than the sum of 43,000,000 francs, which is provided for by Article I of the convention, the saving effected shall inure to the benefit of the State alone.

ARTICLE III.

The sum of 12,693,635 francs shall be allowed by way of an extraordinary appropriation to the minister of commerce and manufactures on the fiscal year 1886, over and above the allowances made by the financial act of August, 1885. This allowance shall form a special chapter entitled "No. 43. Amount contributed by the State to the expenses of the exhibition of 1889."

This extraordinary appropriation shall be paid from the source mentioned in the

foregoing article.

ARTICLE IV.

The appropriations necessary for the expenses of the years 1887, 1888, 1889, and the following, shall be made, within the limits of the allowance above fixed, by the

annual appropriation laws.

Nevertheless, during the recess of the chambers, in pursuance of Article V of the act of December 14, 1879, such appropriations may be made by decrees approved by the council of ministers. These decrees shall be submitted to the chambers for their sanction within the first fortnight after their next meeting.

ARTICLE V.

All moneys for the exhibition shall be received and expended by the officers of

the treasury, and shall be submitted to the court of accounts for inspection.

The subsidy allowed by the city of Paris, together with all receipts accruing from the World's Exhibition of 1889, shall be paid into the treasury as funds for public expenses, according to article 13 of the act of June 6, 1843.

ARTICLE VI.

Plans of all kinds relative to the construction, arrangement, and management of the exhibition of 1889 shall, before being put into execution, be submitted to the minister of commerce and manufactures for his approval.

ARTICLE VII.

A detailed statement of the receipts and expenditures of the World's Exhibition of 1889 shall be presented to the President of the Republic in a report which shall be published and distributed among the senators and members of the Chamber of Deputies.

A report published in the same way shall annually make known the state of advancement of the work, and shall furnish a statement of the expenses incurred.

ARTICLE VIII.

The instruments designated in article 1, paragraph 9, of the act of February 28, 1872, and approved by the minister of commerce and manufactures, in pursuance of this act, shall be subjected to a fixed duty of 3 francs. This act having been adopted by the Senate and Chamber of Deputies, shall be executed as a law of the State.

MINISTRY OF COMMERCE AND MANUFACTURES—WORLD'S EXHIBITION OF 1889, AT PARIS.

GENERAL REGULATIONS.

Ministerial order of August 26, 1886.

ARTICLE I.

In pursuance of the decrees issued by the President of the French Republic, at the suggestion of the minister of commerce and manufactures and of the minister of public instruction, fine arts, and worship, an International World's Exhibition shall be opened at Paris on the 5th day of May, 1889, and shall be closed on the 31st of October following.

No production shall, however, be admitted in the exhibition after April 1, 1889.

ARTICLE II.

This exhibition shall receive works of art and productions of the industry and agriculture of all nations,

It shall be held principally in the Champ de Mars, in the unoccupied space between Lamothe-Piquet avenue and the square situated near the quay. It may extend—

(1) On the left bank of the Seine, over the causeway and the steeps of the quay, in the parts comprised between the Champ de Mars and the esplanade of the

Invalides, and over the Esplanade of the Invalides.

(2) On the right bank of the Seine, in the Trocadero Park and the available parts of the Trocadero Palace, in the Palace of Industry, and on the grounds situated between that palace and the Seine.

ARTICLE III.

GENERAL ORGANIZATION.

An advisory commission, consisting of 300 members, and styled the "grand council of the World's Exhibition of 1889," shall be appointed under the presidency of the minister of commerce and manufactures, who shall likewise be the commissioner-general of the exhibition.

ARTICLE IV.

The grand council shall be convoked and presided over by the minister, who shall fix the order of its daily proceedings.

ARTICLE V.

It shall be subdivided into twenty-two advisory committees, to wit: The committee on superintendence and finance, on contested claims, buildings, festivals and ceremonies, transportation, the fine arts, agriculture, colonies and countries under protectorate, military and maritime exhibitions, education, the liberal arts, hygiene, the third group (furniture, etc.), the fourth group (textile fabrics, wearing-apparel, etc.), the fifth group (manufacture of extracts, raw and manufactured productions), the sixth group (mechanical instruments and processes in mechanical industry), the seventh group (articles of food), electricity, the press, musical and theatrical pieces, congresses and conferences, the retrospective exhibition of work.

ARTICLE VI.

The advisory committee on superintendence and finance, which is to be appointed by a decree of the President of the Republic, shall be presided over by the minister, or, in his absence, by one of the three vice-presidents, each in his turn.

It shall be convoked by the minister, who shall fix the order of its daily pro-

ceedings.

ARTICLE VII.

This commission shall be consulted by the minister on all questions having reference to the financial management of the exhibition. Its advice shall be acted upon in all cases in which questions are concerned relating to receipts of all kinds to be collected on the occasion of the exhibition.

ARTICLE VIII.

The other committees may subsequently be completed by the addition of new members, to be appointed by ministerial orders.

Their chairmen shall be appointed by the minister.

Their vice-chairmen and secretaries shall be designated by the committees themselves, subject to the approval of the minister.

They may be subdivided into subcommittees, with the approval of the minister, who shall designate the new chairmen.

ARTICLE IX.

The minister shall lay suitable matters directly before the committee and sub-committees.

ARTICLE X.

The directors-general, who are to be appointed in the manner provided by the decree of July 28, 1886, shall be charged, each in that which concerns him, with the preparation and submission to the minister, commissioner-general, of the plans relative to the construction, arrangement, and management of the exhibition. They shall be admitted to all sessions of the committee on superintendence and finance, and to the sessions of the committees having charge of matters connected with their respective branches. They shall at these sessions have the right of discussion, but not that of voting.

ADMISSION AND CLASSIFICATION OF PRODUCTIONS.

ARTICLE XI.

A departmental committee, appointed by the minister of commerce and manufactures, shall be instituted in each department of the French Republic. The duties of this commission shall be—

(1) To make known throughout the department the regulations concerning the organization of the exhibition, and to distribute the blank forms of applications for admission, together with all other documents relating to the exhibition.

(2) To furnish, with as little delay as possible, the names of the principal artists, agriculturists, and manufacturers whose admission to the World's Exhibition shall

seem particularly calculated to promote the success of that enterprise.

(3) To promote the exhibitions of industrial, agricultural, and horticultural productions of the department.

(4) To promote and organize, if deemed desirable, the collective grouping of similar productions of the department, and to accredit a delegate, whose duty it

shall be to represent each collective exhibition.

(5) To prepare, if this shall be thought desirable, by way of subscription or otherwise, the establishment of a special fund, designed to facilitate the examination and study of the World's Exhibition by a certain number of master-workmen, workmen, and cultivators of the department.

ARTICLE XIL

Foreign commissions appointed at the request of the French Government are

urged to send their delegates with as little delay as possible.

The duty of each delegate shall be to discuss such questions as may interest his countrymen, and especially such as relate to the distribution of the entire space among the different countries and to the method of installation of each national section. Consequently, the minister, commissioner-general, will not correspond directly with foreign exhibitors, and all productions presented by foreign producers shall be admitted only through the agency of their respective commissioners.

ARTICLE XIII.

The departmental committees appointed by the minister and the foreign commissioners regularly accredited to him shall enter into direct relations with the

director-general of the management.

The foreign commissioners shall receive from him all suggestions and plans with regard to the most advantageous installation of the productions of their nations, together with all information concerning the conditions of general circulation and of public order to which they shall be obliged to conform.

They shall have recourse to him for all changes of space from country to country.

ARTICLE XIV.

In each section devoted to the productions of the same nation the articles exhibited shall be divided among the nine groups following:

First group: Works of art (class 1 to 5).

Second group: Education, instruction, materials and processes used in the liberal arts (class 6 to 16).

Third group: Furniture, etc. (class 17 to 29).

Fourth group: Textile fabrics, wearing apparel, etc. (class 30 to 40).

Fifth group: Manufacture of extracts, raw and manufactured articles (class 41 to 47).

Sixth group: Instruments and processes used in mechanical industry—electricity (class 48 to 66).

Seventh group: Articles of food (class 67 to 73).

Eighth group: Agriculture, vine culture, and pisciculture (class 74 to 77). Ninth group: Horticulture (class 78 to 83).

Each of these groups shall be divided into classes according to the system of general classification appended to these regulations (Annex No. 1).

That document shall comprise for each class a compendious enumeration of the

articles which it is to include.

ARTICLE XV.

A methodical and complete catalogue of the productions of all nations shall be prepared in the French language. This catalogue shall state the places to be occupied by said productions in the halls, the parks, or the gardens, together with the names of the exhibitors.

Each nation shall, moreover, have the right to prepare at its own expense, but only in its own language, a special catalogue of the productions exhibited in its

section.

ARTICLE XVI.

Neither French nor foreign exhibitors shall be obliged to pay any rent for the

space occupied by them in the exhibition.

They shall have to defray all the expenses of installation and decoration in the halls, parks, or gardens. These expenses shall in the main comprise the furnishing and putting in place of the floors, and the tents or ceilings in the halls, and also of the special earthworks and trees or plants set out in the parks or gardens in the

vicinity of and within the limits of the special buildings authorized by the minister commissioner-general.

The floors shall be constructed in good condition for use in all the interior passages through which the public is to pass.

ARTICLE XVII.

No work of art and no article exhibited in the halls, parks, or gardens shall be drawn, copied, or reproduced in any manner whatever without an authorization from the exhibitor bearing the visé of the director-general of the management.

The director-general of the management may, however, authorize the reproduc-

tion of views of sundry articles together.

ARTICLE XVIII.

No work of art and no article exhibited can be withdrawn before the close of the exhibition without special authorization.

ARTICLE XIX.

Within the time allowed, and on the terms provided by the act of May 23, 1868, relative to the guaranty of inventions susceptible of being patented, and of designs for manufactured articles, exhibitors shall enjoy the rights and immunities granted by the aforesaid act. (Annex No. 2.)

ARTICLE XX.

In pursuance of the decree issued on the 25th of August, 1886 (Annex No. 3), the exhibition is to be, in fact, a bonded warehouse; consequently articles exhibited are to be exempted from the payment of city dues and from search by the municipal authorities of Paris, and also from the payment of duties at the French custom-house and from search there.

ARTICLE XXI.

Subsequent regulations shall in due time determine the methods of shipment, of reception, and of installation of the productions, the method of admission to the premises of the exhibition, and the formation of the international jury on premiums whose duties shall begin as soon as the exhibition is opened.

SPECIAL PROVISIONS RELATIVE TO WORKS OF ART.

ARTICLE XXII.

The works of French and foreign artists executed since May 1, 1878, shall be admitted to the exhibition.

ARTICLE XXIII.

Such works shall comprise the seven kinds below mentioned:

2. Drawings: Water-colors, pastels, miniatures, enamel, porcelain, and cartoons, not including those which represent subjects of ornamentation only.

4. Engravings on medals and precious stones.

 Architecture.
 Engraving. 7. Lithography.

ARTICLE XXIV.

The following shall be excluded:

1. Copies, even such as reproduce a work in a style different from that of the original.

2. Unframed paintings or drawings.

3. Sculptures in unbaked clay.

ARTICLE XXV.

It shall be the duty of a special jury to decide concerning the admission of works of art.

ARTICLE XXVI.

The requirements to be fulfilled for applications for admission shall be fixed by subsequent regulations. Another regulation shall also indicate the method of shipment and of reception of works of art.

ARTICLE XXVII.

Decision shall be given hereafter with regard to the number and nature of the premiums to be awarded, and also concerning the appointment of an international jury for the award of premiums.

SPECIAL PROVISIONS RELATING TO INDUSTRIAL AND AGRICULTURAL PRODUCTIONS.

ARTICLE XXVIII.

All manufactured and agricultural productions shall be admissible to the exhibition, with the exceptions and reservations mentioned in the following article:

ARTICLE XXIX.

Detonating and fulminating articles and, in general, all matters regarded as

dangerous, shall be excluded.

Spirits or alcohols, oils and essences, corrosive substances, and in general any articles that may injure other productions with which they may come in contact, or that may incommode the public, shall not be received otherwise than in solid vessels suitable for containing them, and of small dimensions.

Percussion caps, fireworks, chemical matches, and other similar objects shall not be received. Imitations thereof may, however, be received, provided that they

contain no inflammable matter.

ARTICLE XXX.

Exhibitors of injurious productions or those calculated to impair the health of human beings must, at all times, conform to such precautionary measures as may be prescribed.

ARTICLE XXXI.

The director-general of the management may at all times cause the removal of all articles, no matter what may be their origin, which, owing to their nature and their appearances, may appear to be objectionable or incompatible with the object or the decorum of the exhibition.

ARTICLE XXXII.

French applications for admission must be drawn up according to the form

appended to these regulations. (Annex No. 4.)
Applications from Paris and the department of the Seine are to be sent directly to the minister of commerce and manufactures, commissioner-general, No. 35 Quai d'Orsay, Paris, or to the director-general of the management, No. 80 rue de

Those from the departments are to be received by the departmental committees,

who will forward them to the same addresses.

All applications of French citizens, thus centralized, shall be submitted by classes to the examination of committees on admission, appointed by the minister, and from whose decisions there shall be no appeal. It is essential that all applications be handed in as speedily as possible.

The printed blank forms of applications for admissions shall be furnished to the

public gratuitously, at the following places:
(1) At Paris: At the ministry of commerce and manufactures, No. 25 Quai d'Orsay, and No. 244 boulevard Saint Germaine; at the buildings of the management of the exhibition (avenue de La Bourdonnaye and rue de Varrenne, No. 80); at the tribunal, and at the chamber of commerce.

(2) In the departments: At the prefectures, subprefectures, chambers of commerce, tribunals of commerce, advisory chambers of arts and manufactures, and at the locations of the departmental committees, as well as at such places of dis-

tribution as may be designated by the said committees.

ARTICLE XXXIII.

Constructors of apparatus requiring the use of water, gas, or steam, must state, either at the time of making their application for admission or through the foreign delegates, the quantity of water, gas, or steam that they require.

Those desiring to set machinery in motion shall state the exact velocity of such

machinery and the motive power which it will require.

ARTICLE XXXIV.

Water, gas, steam, and motive power for the machinery galleries shall be furnished gratuitously.

The power shall be taken from the vehicle of general transmission.

The establishment of all intermediate transmissions shall be at the cost of exhibitors.

PROVISIONS RELATIVE TO MANAGEMENT.

ARTICLE XXXV.

Articles shall be exhibited in the name of the signer of the application for admission. From this requirement there shall be no deviation.

ARTICLE XXXVI.

Exhibitors are authorized to enter, after their own names or the names of their firms, the names of such cooperators of all kinds and all grades as have contributed to the utility of the articles exhibited.

ARTICLE XXXVII.

Exhibitors are expressly requested to state the market price of the articles exhibited, both for the purpose of facilitating the labor of the jury and of edifying visitors.

ARTICLE XXXVIII.

Articles sold shall not be removed before the close of the exhibition, unless by special authorization.

ARTICLE XXXIX.

The State shall take measures to protect articles exhibited from all injury, but it will in nowise be responsible for any accidents, or for fire, or for any damage that they may suffer, be the cause thereof what it may. Exhibitors shall be at liberty to insure their goods directly, at their own expense, if they shall think proper to do so.

ARTICLE XL.

A general surveillance shall be established in order to protect goods from theft

and embezzlement.

Foreign commissions shall have full control as regards the custody of their respective sections. The officers designated by them for the performance of this duty shall be commissioned by the commissioner-general. They shall wear a uniform or a distinctive badge; they may, under all circumstances, apply for assistance to the French officers and policemen who shall walk through the passages open to the public, or who shall be stationed there.

In the French section the exhibitors of each class shall make arrangements for the organization of a collective system of guardianship, independent of the general surveillance. The special officers of this class shall be commissioned by the minister commissioner-general; they shall wear badges indicating the number of

the class whose rooms they are to watch.

ARTICLE XLI.

It is expressly understood that the State disclaims all responsibility for any thefts and embezzlements that may be committed.

ARTICLE XLII.

No article shall be advertised by means of handbills, prospectuses, etc., within the exhibition, by exhibitors, holders of concessions, or any other person, without regular authorization and prepayment of such fees as may be required.

ARTICLE XLIII.

All communications relative to the exhibition must be addressed to the Minister of Commerce and Manufactures, Commissioner-General, No. 25 Quai d'Orsay, Paris, and must bear on the envelope the words "World's Exhibition of 1889." (Exposition universelle de 1889.)

XLIV.

Both French citizens and foreigners, by becoming exhibitors, declare by that very fact that they adhere to the provisions contained in Articles XI-XLII of these regulations.

EDOUARD LOOKROY,
Minister of Commerce and Manufactures, Commissioner-General.
Paris, August 26, 1886.

[Annex No. 1.]

SYSTEM OF GENERAL CLASSIFICATION.

FIRST GROUP.

WORKS OF ART.

CLASS 1 .- Oil paintings.

Paintings on canvas, panels, and on various preparations.

CLASS 2.—Paintings of different kinds, and drawings.

Miniatures; paintings in water colors; pastel, and drawings of all kinds; paintings on enamel, china, and porcelain; cartoons for windows and frescoes.

CLASS 3.—Sculpture, and engraving on medals.

Sculpture in full relief, bas-relief, punctured and chiseled sculpture. Medals, cameos, and engraved stones. Inlaid enamel work.

CLASS 4.—Drawings and models for buildings,

Studies and fragments. Representations and plans of buildings. Restorations from ruins or documents.

CLASS 5.—Engraving and lithographing.

Engravings in black; polychromatic engravings. Lithographs in black, in crayon, and in pencil; chromolithography.

SECOND GROUP.

EDUCATION AND INSTRUCTION, -MATERIALS AND PROCESSES USED IN THE LIBERAL ARTS,

Class 6.—Education of very young children.—Primary instruction.—Instruction of adults.

Plans and models of infant asylums, schools for mothers, orphan asylums, rooms and gardens for the care of children; arrangement and furniture of such establishments. Materials for instruction calculated to promote the physical, moral,

and intellectual development of a child until the age when it is proper for him to enter school.

Plans and models of city and country school buildings; arrangements and furniture of such buildings. School articles, books, maps, apparatus, models, etc.

Plans and models of schools for adults and for industrial training. Arrangement and instruction in such establishments. Articles used in the instruction of adults and in industrial training. Articles used in elementary instruction in its various branches. Articles for elementary instruction in geometrical and landscape drawing.

Articles for the instruction of the blind, and of the deaf and dumb.

Articles made by pupils of both sexes.

Books and publications.

CLASS 7.—Organization of secondary instruction and articles used therein.

Plans and models of establishments for secondary instruction: lyceums for boys and girls, gymnasiums, colleges, and industrial and commercial schools. Arrangement and furniture of such establishments.

Collections, standard books, maps, and globes; articles used in technological and scientific instruction, or instruction in the arts, and in drawing, music, and singing.

Apparatus and methods used in teaching gymnastics, fencing, and military exercise.

CLASS 8.—Organization and methods of superior instruction and articles used therein.

Plans and models of academies, universities, medical and practical schools, technical schools, and those for application, agricultural schools, observatories, scientific museums, amphitheaters, and laboratories for instruction and experiment,

Furniture and arrangement of such establishments.

Apparatus, collections, and materials used in superior education and in scientific

research.

Special exhibitions of learned, technical, agricultural, commercial, and industrial institutions and societies. Scientific expeditions.

CLASS 9.—Printing and bookselling.

Specimens of typography, autographic proofs, lithographic proofs in black and colors; proofs of engravings.

New books, and new editions of books already known; collections of works forming special libraries; periodicals. Drawings, atlases, and albums.

Class 10.—Stationery, bookbinding, and articles used in painting and drawing.

Paper, cards, and cardboards; ink, chalk, crayons, pastels, desk furniture, articles used in offices, inkstands, letter scales, etc., and copying presses.

Articles made of paper—such as shades, lanterns, flowerpot screens, etc.

Record books, copy books, albums, and notebooks; bindings, movable bindings,

Various articles for washes and water colors; paints in cakes, in pastels, in bladders, tubes, and shells.

Instruments and apparatus for the use of painters, designers, and modelers.

Class 11.—Ordinary application of the arts of designing and modeling.

Industrial designs: designs obtained, reproduced or reduced by mechanical process. Decorative paintings, lithographs, chromolithographs, or engravings to be used in manufactures. Models for figures, ornaments, etc.

Molded, stamped, chiseled, and carved articles. Cameos, seals, and various articles decorated by means of engraving. Industrial decorative plastic goods

made by mechanical process; reductions, etc.

CLASS 12.—Photographic proofs and apparatus.

Photographs on paper, glass, wood, cloth, enamel, etc. Heliographic engravings, lithographic proofs, litho-photographic proofs, photographic clichés, stereoscopic proofs and stereoscopes. Proofs obtained by amplification. Photochromy.

Instruments, apparatus, and raw material used in photography. Articles used

by photographers.

CLASS 13.—Musical instruments.

Nonmetallic wind instruments, with single mouthpiece, with bec de sifflet, with reeds, with or without air reservoirs.

Metallic wind instruments, single, with extensions, with slides, with pistons,

with keys, and with reeds.

Wind instruments with keys: Organs, accordions, etc.

Stringed instruments played with the fingers or with a bow, without keys.

Stringed intruments with keys: Pianos, etc.

Pulsatile instruments, or those played by means of friction. Automatic instruments: Hand organs and bird organs.

Detached pieces and articles used in orchestras.

Class 14.—Medicine and surgery—Veterinary and comparative medicine.

Articles, instruments, and apparatus used in anatomical, histological, and bacteriological work.

Normal and pathological anatomical specimens: histological and bacterioscop-

ical preparations.

Instruments for medical examinations, both general and special.

Apparatus and instruments used in general, local, and special surgery.

Apparatus used for dressing wounds.

Apparatus used in plastic and mechanical prothesis: orthopedic apparatus; apparatus used in hernial surgery; balneatory and hydrotherapeutical apparatus; apparatus used in medical gymnastics; articles, instruments, and apparatus used in special therapeutics.

Articles used in dental surgery.

Miscellaneous articles for the use of the infirm, the sick, and the insane.

Accessory articles used in the medical, surgical and pharmaceutical service of hospitals or infirmaries.

Cases for instruments and medicines for the use of army and navy surgeons.

Articles for use in succoring the wounded on battlefields.

Appliances for resuscitating the drowned and the asphyxiated.

Special articles, instruments, and appliances used by veterinary surgeons.

CLASS 15.—Philosophical instruments.

Philosophical apparatus and instruments.

Apparatus and instruments used in practical geometry, surveying, topography, and geodesy, compasses, calculating machines, levels, mariners' compasses, barometers, etc.

Measuring apparatus and instruments, verniers, micrometric screws, dividing

machines, etc., and philosophical balances.

Instruments used in ordinary optics. Astronomical instruments. Physical and meteorological instruments, etc. Instruments and apparatus for laboratories and observatories.

Measures and weights of different countries. Coins and medals.

CLASS 16.—Geographical and cosmographical maps and apparatus—Topography-Models, plans, and designs for civil engineering and public works.

Geographical, geological, hydrographic, and astronomical maps and atlases.

Physical maps of all kinds. Plain or raised topographical maps.

Terrestrial and celestial globes and spheres. Statistical works and tables.

Tables and ephemerides for the use of astronomers and navigators.

Models, plans, and designs for public works, such as bridges, viaducts, aqueducts, drains, canal bridges, locks. dams, etc.

Models, plans, and designs for public buildings to be used for special purposes; municipal buildings, hotels, and tenement houses; houses for the occupancy of the working classes.

Models, plans, and designs for stations, car houses, and sundry buildings required by railways.

THIRD GROUP.

FURNITURE, ETC.

CLASS 17.—Cheap and fancy furniture.

Buffets, bookcases, tables, toilet tables, beds, sofas, chairs, billiard tables, etc.

CLASS 18.—Tapestry and decorative work.

Cushions, upholstered chairs, canopies, curtains, hangings, and tapestry.

Decorative articles and furniture. Molded pulp and decorative articles of plaster, statuary pasteboard, papier mâché, etc. Frames. Paintings and decorations for churches.

CLASS 19.—Glass articles and window glass.

Vases and goblets; carved, double, and mounted crystals, etc. Ordinary vases and goblets. Common glassware and bottles. Glass for windows and mirrors. Highly finished, enameled, filigreed, and tempered glass, etc.

Glasses for optical purposes; articles for ornament, etc. Stained glass for win-

dows. Mirrors, looking-glasses, etc.

CLASS 20 .- Ceramics.

Semivitrified porcelain, hard and brittle porcelain. Fine painted china, etc. Semivitrified china. Baked clay. Enameled lava. Bricks and squares. Ceramic stones.

Class 21.—Carpets, tapestry, and other fabrics used in house furnishing.

Carpets, moquettes, and tapestry, velvety or with flock surface. Carpets of felt,

mats, etc. India-rubber carpets, etc.

Fabrics used in furnishing, such as cotton, wool, or silk, plain or figured. Fabrics of horsehair, vegetable leather, moleskin, etc. Leather used for hangings and furniture. Oilcloths and linoleums.

CLASS 22.—Decorated paper.

Printed paper. Paper with velvety surface, marbled, grained paper, etc. Paper for bookbinders' boards, binding, etc. Artistic papers. Enameled and varnished paper. Imitations of wood and leather. Painted or printed blinds.

CLASS 23.—Cutlery.

Knives, penknives, scissors, razors, etc. Various articles of cutlery.

CLASS 24.—Silverware.

Silverware for use in churches; decorative and table silver; articles of silver for the toilet, for office use, etc.

Class 25,—Bronzes, cast-iron articles used in the arts, repouse work in metals,

Statues and bas-reliefs in bronze, cast-iron, zinc, etc. Cast metals with metallic coatings.

Repoussé work in copper, lead, zinc, etc.

CLASS 26. - Watches and clocks.

Detached pieces, both large and small, used in the manufacture of clocks and watches.

Watches, chronometers, pedometers, sundry reckoners, etc. Mantel and other clocks; regulators and metronomes.

Astronomical clocks, chronometers for the Navy, traveling clocks, alarm clocks, etc. Water clocks and hourglasses.

Class 27.—Apparatus and processes used in warming buildings—Apparatus and processes used for lighting otherwise than by electricity.

Hearths, fireplaces, stoves, and furnaces. Accessory appliances for heating houses. Stoves and apparatus for heating and cooking with gas.

Apparatus for heating by means of hot water, steam, and hot air.

Lamps for lighting by means of sundry oils and essences. Accessory articles for lighting. Matches. Accessory appliances and apparatus for lighting by gas. Apparatus for lighting by means of magnesium, etc.

CLASS 28.—Perfumery.

Cosmetics and pomatums; perfume oils, extracts, and scented waters; aromatic vinegar; almond paste, powders, pastiles, and perfume sachets; perfumes for burning toilet soaps.

CLASS 29.—Morocco goods, toys, baskets, and brushes,

Workboxes, and small fancy articles of furniture; liqueur cases and glove cases. Fancy boxes.

Cases and bags, jewel boxes. Portemonnaies, pocketbooks, notebooks, and cigar

Turned, machine-turned, carved, and engraved articles of ivory, shell, etc. Pipes, and tobacco boxes.

Fancy combs; fine toilet brushes. Miscellaneous lacquer articles.

Fancy baskets; *clissuges* and fine esparto goods. Coarse brushes and feather dusters.

Paint brushes.

FOURTH GROUP.

FABRICS, WEARING APPAREL, ETC.

CLASS 30.—Thread and cotton fabrics

Prepared and spun cotton. Fabrics of pure cotton, plain or figured. Fabrics of mixed cotton. Cotton velvet. Cotton ribbons.

CLASS 31.—Thread and fabrics of hemp, flax, etc.

Flax, hemp, and other vegetable fibers, spun.

Canvas and drilling.

Cambric.

Fabrics of thread, with a mixture of cotton or silk.

Fabrics of vegetable fibers, other than those of cotton, flax, and hemp.

CLASS 32.—Threads and fabrics of combed wool—Threads and fabrics of carded

Combed wool, threads of combed wool.

Mousselines, Scotch cassimeres, merinos, serges, etc.

Woolen ribbons and laces mixed with cotton or thread, silk, or floss silk,

Fabrics of hair, pure or mixed.

Woolen shawls, pure or mixed.

Cashmere shawls.

Carded wool: threads of carded wool.

Cloths and other fabrics of carded wool.

Blankets.

Felt of wool or hair, for carpets and hats.

Socks.

Fabrics of carded wool, unfulled or slightly fulled; such as flannels, tartans, swanskins, etc.

CLASS 33.—Silks and silk fabrics.

Raw and thrown silks: threads of floss silk.

Fabrics of pure silk, plain, highly finished, figured. Fabrics of silk mixed with gold, silver, cotton, wool, thread, etc.

Fabrics of floss silk, pure or mixed.

Velvets and plushes.

Ribbons of pure or mixed silk.

Shawls of pure or mixed silk,

CLASS 34.-Laces, tulles, embroidery, and lace work.

Laces of thread or cotton, made with the spindle, the needle, or by mechanical

Laces of silk, wool, or goats' hair.

Silver or gold lace.

Silk or cotton tulle, plain or figured.

Embroidery in tambour work, crocheting, etc. Embroidery in gold, silver, and silk. Sacerdotal vestments.

Embroidery, tapestry, and other hand work. Laces of silk, floss silk, wool, goats' hair, sundry kinds of hair, horse hair, thread, and cotton; braids, etc.

Fine and imitation lace work. Special lace work for military equipments.

CLASS 35.—Articles of hosiery and underclothing—Other articles of wearing apparel.

Hosiery of cotton, thread, wool, or silk cashmere, or of floss-silk, pure or mixed. Elastic fabrics; knit goods. Gentlemen's, ladies', and children's furnishings; baby linen. Flannel goods and other woolen fabrics. Corsets, cravats, gloves, gaiters, garters, suspenders, fans, screens, umbrellas, parasols, canes, etc.

CLASS 36.—Wearing apparel for both sexes.

Men's clothing, women's clothing.

Hats and head gear for both sexes; artificial flowers and feathers.

Wigs and hair work.

Boots, shoes, etc.

Children's furnishings.

Special garments for different occupations.

Popular costumes of different countries.

CLASS 37.—Jewelry and trinkets.

Jewels of precious metals, carved, filigreed, adorned with precious stones, etc.

Plated and imitation jewelry.

Trinkets of jet, amber, coral, mother-of-pearl, steel, etc.

Diamonds, precious stones, pearls, and imitations.

Class 38.—Portable arms—Hunting.

Defensive weapons: Cuirasses, helmets.

Blunt weapons: Clubs, bludgeons, etc.

Side arms: Swords, sabers, bayonets, spears, axes, and hunting knives.

Missile weapons: Bows, crossbows, etc.

Firearms: Guns, carbines, pistols, revolvers.

Other articles made by gunsmiths. Filled or hollow projectiles, explosives. Caps, priming tubes, cartridges.

Hunting equipments; instruments used in training dogs.

Articles used in fencing.

CLASS 39.—Articles for traveling and camping out.

Trunks, valises, saddlebags, etc. Traveling cases. Miscellaneous articles. Traveling rugs; cushions; head gear; waterproof garments; iron-bound staffs; grapnels; parasols.

Portable articles specially designed for travelers and persons going on scientific expeditions; cases and baggage for the use of geologists, mineralogists, naturalists,

settlers, pioneers, etc.

Tents and articles for use in camp, such as beds, hammocks, seats, folding chairs, etc.

CLASS 40. - Toys.

Dolls and toys: also wax figures.

Games intended for the amusement of children or adults.

Instructive and scientific toys.

FIFTH GROUP.

EXTRACTIVE ARTS, RAW AND MANUFACTURED PRODUCTS.

CLASS 41.—Products of mining and metallurgy.

Collections and specimens of rocks, minerals and ores: ornamental rocks: hard rocks: refractory substances: earths and clays: various mineral products; raw sulphur; rock salt, salt from salt springs: mineral fuel, various coals, residua, and agglomerates; asphalts and asphaltic rocks: bitumen, coal tar, unrefined petroleum, etc.

Unwrought metals: Smeltings, iron, steel, iron in process of conversion to steel,

copper. lead; silver, zinc, etc.; metallic alloys.

Products of the art of the leacher of ashes, and of the refiner of precious metals,

of the gold beater, etc.

Products of the manufacture of unwrought metals: Castings, bells, commercial iron (pig iron): special kinds of iron; sheet iron and tin; sheet iron for sheeting and building purposes, etc.

Sheet iron coated with zinc and coated with lead, etc.; copper, lead, and zinc

sheets, etc.

Wrought metals: Forge work and large iron work; wheels and tires: unsoldered tubes, chains, etc.

Products of wire drawing: Needles, pins, metallic cables, lattices, wire gauzes,

punched sheets.

Hardware, edge tools, manufactures of iron, of copper, of sheet iron, iron ware, and tinware.

Various wrought metals.

CLASS 42.—Products of forest growth and forest industries.

Specimens of forest species.

Wood for ornamental work, fuel, and building purposes. Wood prepared for naval purposes, clapboards, split wood.

Cork; textile barks; substances for tanning, dyeing, scenting, and resinous sub-

stances, etc.

Products of forest industries: Woods dried by fire and charcoals; potash in the raw state: articles manufactured by the cooper, the basket maker, manufactures of esparto, wooden shoes, etc.

CLASS 43.—Products of the chase—Products of the fisheries, apparatus and instruments for fishing, and for gathering fruits of natural growth; products of the latter.

Collections and drawings of amphibious animals, birds, eggs, fishes, cetacea, mollusks, and crustacea,

Products of the chase: Furs and skins, hair, horsehair, feathers, down, horns, teeth, ivory, bones, shells, musk, castoreum, and similar products

Products of the fisheries: Whale oil. spermaceti, etc.; whalebone, amber gris, mollusk shells, pearls, mother-of-pearl, sepia. purple, corals, sponges, etc.

Products of fruit growth or of crops obtained without cultivation: Mushrooms, truffles, wild fruits, lichens used in dyeing, for food, or forage; fermented saps: quinquinas; useful barks and filaments, wax, gum resins, caoutchouc in the raw state, gutta-percha, etc.

Snares and apparatus: Lines and hooks, harpoons, nets, apparatus and bait for

fishing.

Apparatus and instruments for harvesting products obtained without cultivation.

CLASS 44.—Agricultural products not used for food.

Textile substances: Raw cotton, flax and hemp, dressed and undressed; textile vegetable fibers of every kind; wool in the raw state, washed and unwashed; silkworm cocoons.

Various agricultural products employed in industry, in pharmacy, and in domestic economy; oleagenous plants, oi.s, wax. resins.

Leaf or manufactured tobacco. Touchwood.

Tanning and dyeing substances.

Stored forage and substances specially intended for feeding animals.

Class 45.—Chemical and pharmaceutical products.

Acids, alkalis, salts of all kinds, sea salts, and products resulting from the treat-

ment of mother-waters.

Various products of the chemical industries: wax and fat bodies: soaps and candles; elementary bodies of perfumery; resins, tar, and derived bodies; essences and varnishes; various glazes; blacking.

Elementary bodies of pharmacy; simple and compound medicines.

Products of the caoutchouc and gutta-percha industries; dyeing substances and

Products derived from the treatment of mineral matters utilized for light,

Class 46.—Chemical methods of bleaching, dyeing, printing, and finishing.

Specimens of threads and stuffs bleached and dyed. Samples of dyeing prepa-

Specimens of printed or dyed cloths, of cotton prints, pure or mixed. Specimens of woolen prints, pure or mixed, combed or carded.

Specimens of silk prints, pure or mixed.

Specimens of printed felt or cloth carpet; of oil-cloth.

CLASS 47.—Leathers and skins.

Elementary substances employed in the preparation of skins and leather.

Green skins, salted skins, tanned leather, curried leather, pressed leather, or

dyed leather; varnished leather.

Morocco and sheepskins; Hungary-dressed skins; shamoy-dressed skins; tawed skins; dressed or dyed skins; skins prepared for gloves; peltry and furs, dressed or dyed; parchments.

Articles of gut work: Cords for musical instruments; gold-beater's skins; liga-

ments of the ox, etc.

SIXTH GROUP.

APPARATUS AND METHODS OF THE MECHANICAL INDUSTRIES-ELECTRICITY.

Class 48.—Apparatus and methods of working mines and of metallurgy.

Apparatus for search borings for artesian wells, and for wells in long tubular sections.

Models, plans, and sketches of the working of mines and quarries.

Methods of utilizing the flow of mineral waters.

Machines and apparatus intended for lifting-for carrying down and bringing up the workmen from the mine.

Machines for drainage; pumps.

Machinery for pumping in air; ventilators.

Safety lamps; safety apparatus; parachutes; signals.

Apparatus for the mechanical preparation of ores and mineral fuel.

Apparatus for compressing fuel.

Apparatus for carbonizing fuel; furnaces and metallurgic blasts; smoke-consuming apparatus.

Plant of metallurgical shops. Special plant of forges and foundries.

Plant of shops for working up the metals under all forms.

CLASS 49.—Apparatus and methods of farming and forestry.

Plans for cultivation, distribution, and management of crops.

Plant and works of agricultural engineering: Surface drainage, subsoil drainage, irrigation.

Plans and models of agricultural buildings.

Tools, instruments, machines, and apparatus serving for plowing and other dressings given to the ground for sowing and planting, harvesting, preparing, and preserving the products of cultivation.

Various agricultural machines moved by teams or steam.

Plant for carts and agricultural conveyances.

Movable steam engines for special purposes and horse gins.

Fertilizers of organic or mineral origin.

Apparatus for the physical and chemical study of soils.

Plans of methods of replanting, managing, and cultivating forests.

Plant for forest work and forest industries.

Plant, instruments, and machines for the manufacture of tobacco.

CLASS 50,—Plant and methods of agricultural manufactories and food industries.

Plant for agricultural manufactories; manufactories of artificial fertilizers, of drainage pipes; cheese factories, dairies, flour mills, farina mills, starch mills, oil mills, breweries, distilleries, sugar mills, refineries, mills for the manufacture of textile substances, silk-worm nurseries, etc.

Plant for the manufacture of food products: Bread beaters and mechanical

ovens for bakers; pastry and confectionery utensils.

Apparatus for the manufacture of doughs for food, sea biscuit, etc.; machines for making chocolate; apparatus for drying coffee.

Preparation of ices and sherbets; manufacture and keeping of ice.

CLASS 51.—Plant of the chemical arts, pharmacy, and tanning.

Laboratory utensils and apparatus; enameling lamps; blowpipes.

Apparatus and instruments designed for industrial and commercial experiments. Plant and apparatus of the manufactories of chemical products; soaps and candles.

Plant and methods of the manufacture of essences, varnishes, articles of caout-

chouc and gutta-percha.

Plant of factories using the mineral substances useful for light.

Plant and methods of bleaching factories.

Plant for the preparation of pharmaceutical products. Plant of factories for tanning and tawing leather.

Plant and methods of glass factories and manufactories of ceramic products.

CLASS 52.—Machines and apparatus of general mechanics,

Detached pieces of machinery: Supports, rubblesones, sliding rods, eccentrics, gearing, coupling rods, parallelograms and joints, pulleys, belts, funicular systems, etc.; couplings, monkeys, etc.; regulators and moderators of motion; apparatus for greasing.

Indicators and registers; dynamometers, manometers, weighing apparatus;

gauging apparatus for liquids and gases.

Machines used for handling heavy masses.

Hydraulic lifting machines: Norias, pumps, tympanums, hydraulic rams, etc.

Hydraulic receivers: Wheels, turbines, water-pressure engines.

Hydraulic presses.

Engines moved by steam: Stationary engines, stationary and movable engines, movable engines, boilers, steam generators, and accessory apparatus.

Apparatus for condensing vapors.

Engines moved by other vapors than steam; by combined vapors.

Gas, hot-air, and compressed-air engines.

Apparatus for the transmission of force by water and by air. Windmills and pananémones (wind vanes?).

Balloons.

CLASS 53. - Machine tools.

Machine tools used for working up wood: Planes, toupies (molding cones? turning lathes?); circular and belt saws; mortise cutters, etc.; machines for making

casks; machines for cutting cork.

Turning lathes and fine boring and planing machines; mortise-cutting machines, piercing machines, cutting presses, circular saw cutting machines (?) (machines à fraiser), machines for cutting out curves (?) (machines à décolleter), punching machines, screw-cutting machines, riveting machines, etc.; drills; various tools of shops of mechanical construction.

Stones for whetting, scraping, polishing, etc.

Tools, machines, and apparatus used for pressing, crushing, kneading, sawing, polishing, etc. Special machine tools in the various industries.

CLASS 54.—Plant and methods of rope spinning.

Plant of hand spinning. Detached pieces belonging to the plant of spinning mills. Machines and apparatus used in the preparation and spinning of textile substances. Apparatus and methods used in the operations complementary to these: Drawing, dividing, twisting throwing; mechanical preparations. Appara-

tus for drying and determining the thickness and length of the threads.

Plant of rope-spinning mills, round cables, flat cables, cables diminués (short cables?), ropes, strings, wire cables, cables with a metal core, fuses, quick matches, etc.

CLASS 55.—Apparatus and methods of weaving.

Machines for warping, winding. Stretching machines. Ordinary and mechanical frames for the manufacture of close tissues. Frames for the manufacture of figured and embroidered stuffs; damask looms.

Frames for manufacturing carpets and tapestries.
Frames with meshes for the manufacture of hosiery and tulles. Plant for the manufacture of lace. Plant of lace-work factories.
High-warp tapestry frames, and methods of figuring by means of pirns (?) (espoulinage). Accessory apparatus: Machines for fulling, mangling, diapering, watering, measuring, folding, etc.

CLASS 56.—Plant and methods of sewing and making articles of clothing.

Ordinary tools of sewing and finishing shops. Machines for sewing, stitching, seaming, and embroidering.

Saws for cutting stuffs and leathers for the manufacture of articles of clothing

and boots.

Machines for making, pegging, and screwing shoes.

Machines for utilizing caoutchouc.

CLASS 57 .- Plant and methods of manufacture of articles of furniture and of building material.

Machine for cutting up wood for veneering. Saws for cutting up and profile

Machines for making moldings, borders for frames, floor plates, furniture, etc. Turning lathes and different apparatus of the joiner's and cabinetmaker's shops. Machines for stamping and chasing, machines and apparatus for working in stucco, pasteboard, ivory, bone, horn, etc.

Machines for bringing to a point (à mettre au point), sculpturing, chiseling down

statues, engraving, engraving in waved lines, etc.

Brick machines, tile machines. Machines for making artificial stones.

Machines for sawing and polishing hard stones, marbles, etc.

CLASS 58.—Plant and methods of paper manufacture, dyeing, and printing.

Plant and products of the manufacture of paper pulp of wood, straw, alfa, etc. Methods and products of the bleaching of ligneous fiber. Plant of the manufacture of paper by the vat and by machine.

Apparatus for satining, glazing, watering, diapering, filigreeing, and ruling

Machines for cutting up, cutting and stamping paper, etc.

Plant for bleaching, coloring, and finishing paper and tissues. Plant for printing paper hangings and tissues.

Machines for engraving the printing rollers.

Plant, apparatus, and products of foundries for types, stereotype plates, etc. Machines and apparatus employed in printing, stereotyping, engraving, autography, lithography, engraving on copper, engraving on zinc, chromo-lithography,

Machines for setting up and sorting type.

Printing of bank notes, stamps, etc.

Class 59.—Machines, instruments, and methods used in various occupations.

Coining presses; machines used in the manufacture of buttons, pens, pins, letter envelopes; machines for packing, making brushes and cards; manufacturing capsules; leading goods; corking bottles, etc.

Tools and methods of manufacture of articles of clockwork, toys, mosaic work, basket work, etc.

Machines for binding; writing machines.

CLASS 60.—Carriage and wagon making, harness making, and saddlery.

Detached pieces of wagon and carriage manufacture: wheels, tires, axles, wheel boxes, iron work, etc. Springs, and various systems of suspension.

Methods of harnessing: bits.

Products of the wagon-building industry: Wagons, carts, drays, vehicles destined for special purposes.

Products of carriage building: Carriages for hire, state carriages, private car-

riages, sedan chairs, litters, sledges, etc., velocipedes.
Articles of harness and saddlery; pack saddles, saddles, stretchers for conveying the wounded on the backs of mules: bridles and harness for riding animals; beasts of burden and draught; stirrups, spurs, whips, and riding whips.

CLASS 61.—Plant for railroads.

Detached pieces: Springs, buffers, brakes, etc.

Fixed plant: Rails, chairs, fish plates, side tanks, switches, turntables; rubber buffers; cranes for supplying fuel and water tanks; optical and acoustic signals. Various kinds of safety apparatus, of blocking trains.

Fixed plant for tramways.

Rolling stock: Passenger cars, construction cars, freight cars, cattle cars, locomotives, tenders.

Self-movable carriages and road engines.

Special machines and tools for shops of maintenance and repair and the construction of plant.

Plant and machines for inclined planes and self-movable planes; models of machines of systems of traction, of apparatus relating to railways.

Rolling stock for tramways of various kinds.

CLASS 62,—Electricity.

Production of electricity: Static electricity, piles and accessories, magneto-electrical and dynamo-electrical machines, accumulators.

Transmission of electricity: Cables, wires, and accessories; lightning rods.

Electrometry: Apparatus serving for electrical gauges. Registers of electricity. Applications of electricity: Telegraphy, signals, telephony, microphony, photophony, electric light, electric motors, electrical locomotion, conveyance and distribution of force transmuters. Medical electricity, electro chemistry. Electromagnets and magnets, compasses. Electrical clockwork.

Various kinds of apparatus.

CLASS 63.—Plant and methods of civil engineering of public works and architecture.

Building materials: Rocks, woods, metals, ornamental stones; limestone, mortars, cements, artificial stone; and concretes; draining tiles, bricks, paving tiles; slates, roofing paper and felts for roofs.

Plant and products of the methods employed for the preservation of wood.

Apparatus and instruments for testing building material.

Plant for earthworks; excavators. Apparatus for construction shops. Tools and methods of the trimmer, of the cutter of stones, of the mason, carpenter, roofer, locksmith, joiner, glazier, plumber, painter of buildings, etc.
Fine locksmith's work: Locks, padlocks, gratings, balconies, balustrades, etc.

Plant and engines for building foundations: Pile drivers, piles, screw piles, pumps, pneumatic apparatus, dredges, etc.

Plant for hydraulic works in seaports, canals, rivers.

Plant and apparatus serving for the distribution of water and gas. Plant for maintaining roads, plantations, walks.

Light-houses.

Special plant for telegraphing by compressed air.

CLASS 64.—Hygiene and public works.

Plant instruments and apparatus used in hygiene investigations.

Plant and methods for rendering salubrious private houses, buildings, and cities; methods of renewing the air directly; warming, ventilating, lighting in their relation with health; methods of carrying off water and sewerage by gutters, drains, and sewers; receiving reservoirs, hydraulic siphons, water-closets, public and private urinals, sinks, close-stools, night-soil apparatus, sanitary plumbing, walls, bricks, roofs, flooring, etc.

Apparatus for carrying off, receiving, and treating sewerage.

Apparatus and methods for filtering water.

Apparatus intended for the prevention of infectious diseases; methods, products, and instruments for purifying, destroying germs, and disinfecting.

Apparatus and instruments for interring and destroying dead bodies in ceme-

teries and on battlefields; cremation.

Plans, models, and documents of health offices, national, departmental, and communal.

Plant and methods of industrial and professional hygiene.

Plans, models, arrangement, and furniture of hospitals, various asylums, houses of refuge, of retreats, insane asylums, infant asylums, etc.

Plans, models, specimens of civil and military ambulances.

Mineral waters and waters charged with natural or artificial gases.

Class 65.—Plant of navigation and life-saving.

Drawings and models of stocks, refitting basins, floating docks, etc.

Drawings and models of buildings of all kinds used for river and maritime navigation. Plans and models of systems of construction adopted in the merchant and war services, torpedo boats, ship's boats, and small craft.

Plant of ship's rigging; cranes, capstans, Vireurs (steam capstans?), steering

gear.

Equipment.

Apparatus intended to prevent collisions at sea; buoys, Flags and signals.

beacons, etc.

Instruments and methods of swimming, diving, and life-saving; life-preservers, swimming belts, etc.; diving belts, nautiluses, diving armor, etc.; submarine boats, instruments for the maritime life-saving service; mortars for casting lines; lifeboats, etc.; instruments for life-saving in case of fire and other accidents.

Pleasure boats.

Class 66.—Instruments and methods of the art of war.

Works of military engineering; fortifications. Artillery, arms, gun carriages, and projectiles of all kinds. Equipment, clothing material, and material for camps. Plant used for military transport. Military topography and geography.

SEVENTH GROUP.

FOOD PRODUCTS.

Class 67.—Cereals, Farinaceous products, with their derivatives.

Wheat, rye, barley, rice, maize, millet, and other cereals in the grain, and when ground.

Hulled grain and oatmeal.

Potato starch, rice starch, lentil starch, etc., gluten.

Tapioca, sago, arrowroot, various starches, mixed farinaceous products.

Italian paste, semolino, vermicelli, macaroni.

Preparations of food intended to take the place of bread, noules (pastry), pap, pastry of domestic make.

CLASS 68.—Products of the bakery and pastry shop.

Various kinds of bread, leavened and unleavened; fancy breads and pains faconnés (bread worked into figures?); pressed bread, for traveling, military campaigns, etc., sea biscuit.

Different products of pastry belonging to each country. Spice bread and dry cakes fit for keeping.

CLASS 69.—Fat bodies used for food, milk products, and eggs.

Fat and oils for food. Fresh milk, condensed milk; salt and fresh butter; cheeses. Eggs of all kinds.

CLASS 70 .- Meats and fishes.

Salt meats of every kind. Meats preserved by various processes. Meat and soup tablets. Hams and preparations of meat.

Poultry and game.

Salt fish, packed fish, codfish, herrings, etc.; fish cured in oil; sardines, pickled mackerel, etc.

Crustacea and shellfish: Lobsters, shrimps, oysters, pickled oysters, anchovies, etc.

CLASS 71. - Vegetables and fruits.

Roots, potatoes, etc. Dry farinaceous vegetables: Beans, lentils, etc. Green vegetables for boiling: Cabbage, etc. Vegetable roots: Carrots, turnips, etc. Spice vegetables: Onions, garlic, etc. Salads, cucurbitaceous plants, pumpkins, melons, etc. Vegetables preserved by various processes. Fruits in the fresh state; fruits dried and prepared; prunes, figs, raisins, etc.

Fruits preserved without the aid of sugar.

CLASS 72.—Condiments and stimulants; sugars and products of confectionery.

Spice: Pepper, cinnamon, allspice, etc. Table salt.

Vinegar.

Condiments and compounded stimulants: Mustard, karis, sauces, etc. Teas, coffees, and aromatic drinks; coffees of chickory and sweet acorns.

Sugars intended for domestic and other uses.

Various products of confectionery: Sugarplums, sugar bonbons, foridants (a kind of bonbon), nougat, angelica, anise, sweetmeats, and jellies.

Conserves. Brandied fruits.

Sirups and suga ed liquors.

CLASS 73.—Fermented drinks.

Vin ordinaire, red and white. Cordials and vin cuits (wines treated by fire?). Sparkling wines. Ciders, perry, and other drinks extracted from cereals. Fermented drinks of every kind. Brandies and alcohols. Spiritous liquors, gin, rum, tafia, kirschwasser, etc.

EIGHTH GROUP.

AGRICULTURE, CULTIVATION OF THE VINE, AND FISH CULTURE.

Class 74.—Specimens of farm improvements and factories of agricultural products.

Plans of farm buildings of various countries.

Plans of stables, cow stables, sheep sheds and folds, pigsties, and buildings fit for raising and fattening animals.

Material for stables, cow stables, kennels, etc.

Apparatus for preparing food for animals.

Agricultural machines in operation: Steam plows, reapers, mowers, haymakers,

thrashers, etc.
Plans of agricultural manufactories: Distilleries, sugar mills, refineries, breweries, flour mills, fecula and starch factories, silkworm nurseries.

Cider presses, oil presses.

Plans for poultry houses, pigeon coops, pheasant coops.

Apparatus for artificial hatching.

Plans of kennels.

CLASS 75. - Viticulture.

Plans of buildings used in viticulture. Plant used in the cultivation of the vine. Plant of wine vaults, cellars, and vats. Presses. Courses and methods employed in fighting diseases of the vine. Collections of vines.

CLASS 76.—Useful and injurious insects.

Bees, silkworms, and various kinds of hornbyx. Cochineal.

Material for raising and preserving bees and silkworms. Material and methods used in the destruction of injurious insects.

CLASS 77.—Fish, crustacea, and mollusks.

Useful aquatic animals in the live state. Aquariums, methods of pisciculture. Material for rearing fish, mollusks, and leeches.

NINTH GROUP.

HORTICULTURE.

CLASS 78.—Conservatories and material used in horticulture.

Tools of the gardener, nursery gardener, and cultivator of flowers. Apparatus for watering, keeping up turf. Large conservatories and their appurtenances. Small room conservatories and window conservatories. Aquariums for aquatic plants. Fountains and apparatus for the ornamentation of gardens.

CLASS 79.—Flowers and ornamental plants.

Species of plants and specimens of cultivation indicating the characteristic types of the gardens and the natives of every country.

CLASS 80,-Kitchen gardens,

Species of plants and specimens of cultivation indicating the characteristic types of the kitchen gardens of every country.

CLASS 81 .- Fruits and fruit trees.

Species of plants and specimens of the products of cultivation indicating the characteristic types of the orchards of every country.

CLASS 82.—Grains and plants of forest species.

Species of plants and specimens of the products of cultivation indicating the methods of forest planting in use in every country.

CLASS 83.—Plants grown under glass.

Specimens of the methods of cultivating in use in various countries for pleasure or utility.

[Annex No. 2.]

Law of May 23, 1868, relating to the guaranty of inventions capable of being patented and of industrial designs, which shall be admitted to public expositions authorized by the Government throughout the whole Empire.

ARTICLE 1.

Every Frenchman or foreigner, author of a discovery or invention capable of being patented under the provisions of the law of July 5, 1844, or of an industrial design which may be registered conformably with the law of March 18, 1806, or his representatives may, if admitted to a public exposition authorized by the Government, cause the delivery to them, by the prefect or the subprefect of the department or arrondissement in which the exposition is opened, of a certificate describing the object exhibited.

ARTICLE 2.

This certificate assures to its receiver the same rights which a patent of invention or a legal registration of an industrial design would grant, dating from the day of admission and extending to the end of the third month following the closing of the exposition, without prejudice to the patent which the exhibitor may receive or to the registration he may effect before the expiration of this period.

ARTICLE 3.

The request for this certificate is to be made within the first month, at very latest, from the opening of the exposition.

It is to be addressed to the prefecture, or subprefecture, and to be accompanied by an accurate description of the thing to be guaranteed, and, if there be occasion,

by a plan or drawing of the said article.

The requests as well as the decisions made by the prefect or subprefect are to be recorded in a special register, which shall be afterwards transmitted to the department of agriculture, commerce, and public works, and communication of its contents shall be made, without charge, on every request.

The delivery of the certificate shall be free of costs.

[Annex No. 3.]

Decree issued on the report of the minister of commerce and industry declaring the premises appropriated to the Universal Exposition of 1889 to be a Government customs-house.

THE PRESIDENT OF THE FRENCH REPUBLIC:

In view of the decree of November 8, 1884, and the law of July 6, 1886, authorizing the opening at Paris of a universal international exposition in 1889; In view of article 34 of the law of December 17, 1814;

In view of article 4 of the law of July 5, 1836;

On the report of the minister of commerce and industry and of the minister of finance:

DECREES.

ARTICLE 1.

The premises appropriated to the Universal Exposition of 1889 are declared to be a Government customs-house.

ARTICLE 2.

Articles intended for the Universal Exposition shall be forwarded directly to the palace of the exposition, under the conditions of international transit or of ordinary transit, according to the choice of the interested parties, by all the offices opened to this transit, and free from statistical duty (droit de statistique).

Transmission by international transit shall be made without examination. Transmission by ordinary transit shall give occasion only to a brief examination, and the seals of the custom-house shall be affixed without charge.

ARTICLE 3.

Goods admitted to the Universal Exposition which shall be offered for consumption shall be subjected, of whatever origin they may be, only to the duties applicable to similar products of the most favored nation.

ARTICLE 4.

The minister of commerce and industry and the minister of finance shall be charged, so far as each may be concerned, with the execution of the present decree. Done at Mont-sous-Vandrey, August 25, 1886.

JULES GRÉVY.

By the President of the Republic. The minister of commerce and industry: EDOUARD LOCKROY. The minister of finance: SADI-CARNOT.

[Annex No. 4.]

DEPARTMENT OF COMMERCE AND INDUS-TRV.

Universal Exposition of 1889.

FRENCH SECTION.

DEPARTMENT OF -

GROUP NO. ---

CLASS No. -

Request for admission.

I, the undersigned 1 — —, residing at 2 — —, request to exhibit the products described below 3 — — —, for the exhibition of which I shall need space corresponding to the following dimensions 4:

Breadth, —; height, —; depth, —. By these presents I declare that I am informed of the general regulation and accept it.

[Signature.]

¹ Name, Christian names, firm.

2 Give the exact residence in the cities; name carefully the commune. canton, and arrondissement where the factories and isolated establishments are situated.

³ Give as complete details as possible of the articles offered: state whether it is intended to exhibit machines or other objects demanding foundations or special constructions, and furnish, as far as possible, an annexed sketch of these founda-tions or constructions, with their cost. In case it is desired to exhibit apparatus demanding the employment of water, gas, or steam, it is requested that the quan-tity and pressure of gas or of vapor necessary shall be stated. If it is desired to put the machines in motion, it is necessary to give information of the rapidity of each and of the motive force needed, expressed in horsepower.

These dimensions should comprise those of the cases, furniture, or platforms

necessary for the exhibition of the articles.

[Extract from the general regulations.]

ARTICLE 31.

The director-general of the management can always direct the withdrawal of articles of any origin which by their nature or appearance may appear injurious to or incompatible with the purpose of the exposition or its properties.

ARTICLE 32.

Applications for admission from Paris and the department of the Seine are to be sent directly to the minister of commerce and industry, the commissioner-general at Paris, Quái d'Orsay, 25, or to the director-general of the management, Rue de Varenne, 80.

Applications from the departments will be received through the departmental

committees, which will forward them to the same addresses.

All French applications thus collected are to be submitted according to their class to the examination of the committees on admission appointed by the minister and deciding without appeal.

It is essential that all applications should be forwarded as rapidly as possible.

The printed forms of applications for admission shall be put without charge at the disposition of the public:

(1) In Paris: At the department of commerce and industry, Quái d'Orsay, 25, and boulevard St. Germain, 244; at the administrative buildings of the exposition (avenue de la Bourdonnaye and rue de Varenne, 80), at the tribunal and the chamber of commerce.

(2) In the departments: At the prefectures, subprefectures, chambers of commerce, tribunals of commerce, consultative chambers of the arts and manufactures, and at the places where the departmental committees sit, as well as at the

places of distribution which they shall have designated.

No. 2.

Mr. Bayard to Mr. Roustan.

DEPARTMENT OF STATE, Washington, April 13, 1887.

SIR: I have the honor to acknowledge the receipt of your note of the 6th instant in which you invite this Government to participate in the international exposition which is to be held at Paris in 1889.

The matter will be brought to the attention of Congress at its next session, with a recommendation that provision be made for the participation of this country in the proposed exhibition.

I am, sir, your obedient servant,

T. F. BAYARD.

Hon. THE. ROUSTAN.

FIFTY-FIRST CONGRESS, SECOND SESSION.

[See pp. 105, 107, 135, 139, 141, 402, 410, 415, 457.]

January 10, 1891.

[Senate Report No. 1944.]

Mr. Sherman, from the Committee on Foreign Relations, submitted the following report:

To the SENATE:

The Committee on Foreign Relations respectfully report that on the 11th day of April, 1890, the Senate, in executive session, adopted a resolution in the following terms:

Resolved, That the Committee on Foreign Relations be, and it hereby is, directed to inquire into what steps have been taken under the act of Congress entitled "An act to incorporate the Maritime Canal Company of Nicaragua," approved 20th February, 1889, and what are the present conditions and prospects of the enterprise; and to consider and report what, in its opinion, the interests of the United States may require in respect of that interoceanic communication.

In obedience to this direction of the Senate the committee entered upon an investigation and consideration of the subject, which they have diligently and exhaustively pursued, and now submit their report thereon with an accompanying bill, the passage of which we earnestly recommend.

Columbus, in his last voyage in 1502, believed that he would find a strait in Central America which would give his vessel a passage through the continent, which he then supposed to be a vast island, to waters at the westward which should bring him into immediate communication with the shores of Asia. He therefore examined the coast of Central America from the bay of Honduras to the Spanish Main. He sought that which did not exist in physical geography. Irving, in referring to his search, says:

He had been in pursuit of a chimera of a splendid imagination and penetrating judgment. If he was disappointed in his expectations of finding a strait through the Isthmus of Darien it was because nature herself was disappointed. For she appears to have attempted to make one, but to have attempted in vain.

Nature, however, was not much disappointed in her efforts between the two seas at Nicaragua. There is the lowest continental divide (148 feet) between the Strait of Magellan, in latitude 53°-4° south, and the perpetual and all-pervading ice that forms the northern boundary of the Eng-

lish Possessions, in latitude 70° north, between which is a space of 126 degrees of latitude, equal to nearly 9,000 miles.

Almost four centuries have passed since Columbus was baffled in his efforts to reach the tranquil sea and to open direct communication westward from Europe to Eastern Asia, while, during all this time, benignant nature has placed within the reasonable capacity of civilized man the means of making such communication practical and beneficent.

But the great desirability of communication was not lost sight of. In 1551 the Spanish historian Gomara proposed the construction of a passage through the Isthmus and urged on Philip II the attempt to accomplish it on some one of the three routes that have, in recent times, been so often considered and in some respects attempted, viz, Tehuantepec, Nicaragua, and Panama.

Later, and in comparatively recent times, surveys and reconnoissances have been carried on or attempted over almost every part of the Isthmus. Time, research, and experiment have, we think, now demonstrated that the only adequate, efficient, and practicable passage is that by way of Lake Nicaragua. And it is due to the Republic of Nicaragua to say that in the year 1825 the minister of foreign affairs of that country addressed Mr. Clay, then our Secretary of State, on the subject, and appealed to the United States to assist in executing the work of a canal there. He stated that his new-born republic was in the first period of its existence, and said that—

Nothing would be more grateful to it than a cooperation by this generous nation, whose noble conduct has been a model and the protection to all the Americas; it would be highly satisfactory to have a participator not only of the merit of the enterprise, but of the great advantages which that canal of communication must produce, by means of a treaty which would perpetually secure the possession of it to the two nations.

The executive administration of the United States entered with interest into the consideration of the subject, and Nicaragua was informed that the then newly appointed United States chargé d'affaires to that country would investigate the subject and communicate information upon it to the United States, and that it would then be necessary to consult Congress. It does not appear that the diplomatic officer of the United States obtained any definite information in respect of the feasibility of the enterprise. But Mr. Clay, in his letter to the Commissioners of the United States to the Congress of Panama, observed:

A canal for navigation between the Atlantic and Pacific oceans should form a proper subject of consideration at the Congress. The vast object, if it should ever be accomplished, will be interesting in a greater or less degree to all parts of the world; but especially to this continent will accrue its greatest benefits; and to Columbia, Mexico, Central America, Peru, and the United States, more than any other of the American nations.

It is evident to the committee that it was the want of precise information, such only as careful engineering, surveys, and estimates could furnish, which left the project unattempted at that time or soon after.

But the hungry instincts of commerce, as well as a deliberate comprehension of its interests and necessities, led, from time to time, to enterprises of one kind and another, inaugurated to accomplish the passage of the Isthmus by a ship waterway.

A new and more powerful impulse and interest arose when, shortly before 1850, the northern portion of Mexico bordering upon the Pacific became a part of the Republic of the United States, immediately followed by the discovery of the enormous resources of the country, not only in the precious metals, but in all those aspects of nature best adapted to the support and development of self-sustaining, civilized, and populous communities.

The construction of such a canal as is now proposed appeared to be an immediate and somewhat urgent necessity. The British had obtained a narrow foothold through so-called negotiations with the Indian chiefs of the Mosquito coast (a geographical phrase of almost unlimited elasticity). British subjects had a "settlement" at the Belize for the purpose of getting and carrying away mahogany and other wood products under an ancient license from Spain.

The British Government had also seized the country at the mouth of the San Juan River, which was the necessary Atlantic end of the canal via Nicaragua. It may be fairly concluded that Her Majesty's Government was solicitous that the United States should not be the controlling party in interest in the construction of the then impending enterprise of a canal; and that the United States were quite as solicitous that a Government of another continent and not republican should not establish itself by conquest, colonies, or dependencies or spheres of influence in the midst of any of the Republics of Central America. Such considerations doubtless led the two Governments to conclude the Convention of 1850 known as the Clayton Bulwer Convention.

That convention was, as stated in its opening paragraph, one in which the two Governments were to set forth and fix "their views and intentions with reference to any means of communication by ship canal," etc, across the isthmus.

The convention then proceeds to declare that neither of the Governments will ever obtain for itself any exclusive control over the canal "or colonize or assume or exercise any domain over Nicaragua, Costa Rica, the Mosquito Coast, or any part of Central America," etc.

It provided for the exertion of the influence of the two Governments in facilitating the construction of the work by every means in their power. It provided that after completion they will defend its neutrality, with the privilege of withdrawing such guaranty on notice. It provided for inviting other Governments to come into the same arrangement. It provided that each party should enter into treaty stipulations with such of the Central American States as they might deem advisable for carrying out the great design of the convention.

It declared that no time should be unnecessarily lost in commencing and constructing the canal and, therefore, that the two Governments would give their support and encouragement to such persons, etc., as might first offer to commence the same with the necessary capital, etc., and that, if any persons then already had obtained the right to build it from the Central American Government and should fail, each of the two Governments should be free to afford their protection, etc., to any other company that should be prepared to proceed with work.

All these declarations of views and stipulations concerning them were made forty years ago.

During all this time no practical and effective steps in the construction of the canal have been taken until the passage of the act of Congress of February 20, 1889, incorporating the Maritime Canal Company of Nicaragua.

We think it can be justly affirmed that the convention of 1850 has become obsolete, for the convention was based upon the idea of an immediate prosecution of the enterprise of creating this great international water highway, and that neither Government would be found, so far as it regarded the particular question, apart from other considerations, to consider its stipulations as longer binding.

Not only this consideration is to be taken into view, for the course of events in the enterprise and operations of nations has changed entirely the grand commercial situation of the world. The Suez Canal has been constructed and the Government of Great Britain has become, in substance and effect, its dominant and controlling proprietor, thus securing to that Government, in a very large degree, the control of the east and west commerce of the world between the southern and eastern shores of Asia and the whole of Europe and, to a conisderable degree, the eastern shores of the United States and the other American Republics.

We think it may be safely affirmed that had the Government of Great Britain, in 1850, been in possession of the Suez Canal, the United States would never have consented that any canal across the American isthmus should be under the joint control of Great Britain and the United States or under any other European control. In this respect, therefore, the immediate declarations and engagements of 1850 between the two Governments, in regard to an isthmian canal, have become entirely inapplicable, and justly entitle the United States to give its separate aid and encouragement to the construction of such a canal. But this is not all.

One of the provisions of the convention of 1850 most important to the United States and to the preservation of the republican governments on this continent was that which declared that neither party to the convention should "occupy or fortify or colonize or assume to exercise any dominion over Nicaragua, Costa Rica, the Mosquito coast, or any part of Central America."

At that time the "settlement" of British subjects, as it was called, at the Belize, on the coast of Central America, was of the smallest dimensions, and had no substance or form of a territorial dominion. British woodcutters were there under an ancient Spanish license of timber cutting, and nothing more. These settlers in a country not belonging to the British Crown had, off and on, attempted to form a kind of local government for preserving order among themselves, and, after going through various phases, had reached the point, in 1850, of some local magistrates and an imperial superintendent, merely and clearly for the purpose of preserving internal order among the English adventurers engaged in the lumber trade in that foreign country.

This was substantially the condition of things when the convention of 1850 was entered into.

The next step taken, after the convention of 1850, was in 1853, when a legislative assembly was constituted to manage the affairs of the settlement. This was followed by a convention between Great Britain and Guatemala, in 1859, for the establishment of the boundaries between what the treaty chose to call "Her Britannic Majesty's settlement and possessions in the Bay of Honduras" and the territories of Guatemala. The country, or the largest part of it, belonged to Guatemala as the successor to all the sovereign territorial rights of Spain in that region; but by this treaty that which was before a licensed industrial establishment became instantly a possession of the British Crown. The settlement government continued until 1862 when the settlement was declared a colony of the British Crown and a regular colonial establishment was set on foot; and so from that time to this, the form and substance of a regular colonial government as a part of Her Majesty's dominions has continued. It is understood that its geographical dominion has been vastly enlarged from the licensed wood-cutting limitations and boundaries that existed in 1850. All this has taken place systematically and persistently notwithstanding the declaration of Her Majesty's Government that it should not "colonize or assume or exercise any dominion over * * * the Mosquito coast or any port of Central America".

If these proceedings of her Majesty's Government, in respect of one of the most important subjects of the convention and in absolute opposition to it, do not discharge the United States from all and every of their declarations and engagements stated in that convention, it is impossible to conceive what could.

In view of all these considerations the committee is of opinion that the United States is at present under no obligation, measured either by the terms of the convention, the principles of public law, or good morals, to refrain from promoting, in any way that it may deem best for its just interests, the construction of this canal, without regard to anything contained in the convention of 1850.

These observations are submitted as a part of the historical and

diplomatic consideration of the subject, the omission of which might lead to the implication that the committee are opinion that the convention of 1850 is still in force and of binding obligation on the United States, but we think there is nothing in the provisions of the bill now reported which is inconsistent with any of the engagements of the United States entered into in 1850, as stated in that convention.

In view of some of the events following the convention of 1850 the United States in 1867 entered into a treaty with the Republic of Nicaragua by which that Republic granted to the United States, for its citizens, the right of transit between the two oceans, on any route of communication, natural or artificial, whether of land or water, that might be constructed, to be used upon equal terms by the citizens of the two Republics.

This treaty of 1867 is still in force and would, we think, of itself justify the United States in undertaking to aid the construction of the Nicaragua Canal. In 1884 the President of the United States negotiated a treaty with the Republic of Nicaragua providing for the construction of the canal by the United States and under arrangements that preserved the sovereignty of Nicaragua and secured to all the Central American Republics, as well as the United States, the benefits of the enterprise.

That treaty was submitted to the Senate in December, 1884, but before its final disposition it was withdrawn by the President on the 13th of March, 1885, for further consideration, and has not been again submitted to the Senate for reasons stated by him and mentioned further on. Afterwards, in 1887, the Republic of Nicaragua, supposing, apparently, that the treaty which had been negotiated would not go into effect, made a concession of the right to build the canal to a private association of citizens of the United States (known as the Nicaragua Canal Association), through Mr. A. G. Menocal, who had been one of the engineers employed by the United States in making surveys there.

That concession explicitly provided, first, for the exclusive privilege to build and operate the canal for ninety-nine years. It provided that the concession might be taken by a company of execution to be organized by the association, which is the company chartered by Congress February 20, 1889. It provided that the people of all nations should be invited to contribute capital on a certain notice, which notice, the committee understands, has long since been given. It provided for a reservation of 5 per cent. of the subscriptions to the Central American Republics. It provided that shares not so taken should be subject to the free disposition of the company. It provided the respective terms and time within which work should be commenced and, in general, the rapidity with which it should be carried on. It provided that the Government of Nicaragua should receive 6 per cent. of the total amount of the issue of the stock, etc., as compensation for the grant.

It made other provisions in respect of detail, protection, management,

etc., analogous to those usual in statutes granting corporate privileges for public works. Later the Republic of Costa Rica assented to the arrangement so far as her interests were concerned.

Pursuant to the provisions of this concession Mr. Menocal and his associates, all citizens of the United States, became incorporated as the Maritime Canal Company of Nicaragua, under the act of Congress of February 20, 1889.

This last-named company has since proceeded with the work in conformity with the terms of the concession and with the act of incorporation. The extent, nature and physical characteristics of the work are stated in another part of this report. In immediate connection, however, with the preceding meager historical statement, it may be most convenient to state the general geographical, commercial, and political situation of the subject viewed in its broader aspects.

It is self-evident from climatic considerations that the great bulk of the commerce and intercourse of the world must move on eastward and westward lines. A glance at any modern map of the world on Mercator's projection will show the geographical relations of seas and continents and the arrangement of the present commercial lines of ocean and land transit; it will show how perfectly correlative, in these respects, the Central American isthmus is to the 1sthmus of Suez.

It will be seen also that, while the Suez Canal is immediately most important to the commerce of the whole of Europe with southern and western Asia, the Nicaragua Canal is immediately and most largely important to the great body of the Republics of North, Central, and South America.

The Nicaragua canal will bring into the utmost possible near communication the eastern and western shores of North America, and, in like manner, it will bring into the utmost possible short communication the eastern and western shores of South America, and it will bring the western shores of South America into direct communication with the eastern shores of North America, and the eastern shores of South America into direct communication with the Western shores of North America, thus making the short passage of the Isthmus the grand key and common gateway of friendly communication between the republics that now occupy substantially the whole of the habitable parts of both the continents of North and South America.

Not only will this be accomplished, but the great lines of the world's trade by sea will be, by this canal, very much shortened, and the perils of navigation and the asperities of climate will both be immensely diminished. We submit herewith for consideration in this connection a table (marked Appendix 1) showing some of the savings of distance in sea navigation by the use of this canal.

We think it quite unnecessary to speak at large of the great political considerations attending the construction of this work under the patronage of the governments and citizens of the United States and the

republics whose territorial and sovereign interests are directly concerned in it.

These considerations are not those that look to hostile or adverse dealing with the other nations of the globe, but such as look to giving the benefits of the opening of this great "secret of the strait" to the whole family of civilized mankind, always under such just and considerate administration as shall promote to the utmost degree the harmonious and intimate intercourse of all the republican governments which now, as we have said, occupy, almost entirely, the two great western continents, and such as shall enable them to protect and improve themselves commercially and otherwise in their republican and commercial development and prosperity.

THE PRESENT CONDITION OF THE WORK ON THE NICARAGUAN CANAL GIVES A STRONG ASSURANCE OF ITS EARLY COMPLETION.

The work has advanced rapidly and with such uninterrupted success that some of the most important parts of it have already been accomplished. This is especially true as to the engineering and the clearing of the line of the canal and the building of a railroad preparatory to the dredging of the channel.

Nature has placed within the convenient reach of science and labor the requisite conditions for the location of this great ship canal, and the material for its construction at a very low cost as compared with other similar enterprises. When it is constructed on the plan and on the ocation selected it will for ages furnish ample water way, convenience, and security to the fleets of all nations that may pass through this canal from ocean to ocean.

The enthusiasm naturally excited by the magnitude and importance of such a work is appreciated by the committee, and has increased their caution in presenting only such facts in their report as are well authenticated, and such conclusions as they seem to fully sustain. The reports and papers herewith submitted, as appendices to this report, and to support the recommendations of the committee, come from sources that are worthy of full credit. They are, first, a paper read by A. G. Menocal, chief engineer of the Maritime Canal, in July, 1890, at the Fourth International Congress on Inland Navigation, Manchester, which is marked Appendix A.

Second. A special report by Charles T. Harvey, civil engineer, on the maritime canal of Nicaragua, and data relating to the ship-canal facilities and traffic of the Lake Superior basin, marked Appendix B.

Third. The report of Frank P. Davis, division engineer of the company, dated at San Juan Del Norte, Nicaragua, October 19, 1890, covering also the report of Chief Surgeon J. Edward Stubbert, dated November 1, 1890, marked Appendix C.

Fourth. A paper issued by the Maritime Company in 1890, entitled "The Maritime Ship Canal of Nicaragua", marked Appendix D.

Fifth. An article from the Engineering News, of dates the 14th and 11th September, 1889, marked Appendix E.

Sixth. An article published in the California Banker's Magazine, in October, 1890, by William L. Merry, marked Appendix F.

Seventh. The report of A. G. Menocal, of January 1, 1890, and a report from five civil engineers, selected by the Maritime Canal Company, to revise the report and estimates of A. G. Menocal, chief engineer, marked Appendix G and H.

After Mr. Menocal had completed the surveys required for the permanent location of the route of the canal he requested the company to select a board of engineers of the highest skill and experience to thoroughly examine his report, and to revise his estimates of the cost of the canal. This was done with due care and impartiality. His estimates were increased by \$14,633,262, to cover contingencies which include every possible increase of the cost of the work from causes within the range of probable conjecture.

These calculations and results have also been critically examined by many of the leading engineers of the world, without any practical dissent from the main propositions in Mr. Menocal's reports. The attention of scientific engineers, and of various governments, has long been directed to this proposed transit for ships across the Isthmus of Darien, and it may now be stated as the final concensus of opinion, based on many surveys, that the Nicaraguan route is the most feasible and the least costly of all the routes that have been projected for a ship canal across that barrier. It can now be assumed as a fixed and reliable fact that the best location of the axis of the canal has been selected for this work.

The statements and opinions of Mr. Merry, as expressed in Appendix F, are those of an experienced navigator, who was for many years the president of the San Francisco Board of Trade. They also reflect the opinions of the people of the Pacific coast, who have most carefully studied this subject, as to the wisdom of the policy indicated in the bill herewith submitted to the Senate.

The committee respectfully invite attention to the great force and effect of the facts presented in these several papers as to the value of this ship canal, and the comparatively small expenditure required to secure to all the nations and peoples of the earth the benefits of this highway for travel and commerce, that connects all the great oceans and seas of the globe.

The canal, as it is located, after patient, careful, and skillful examination, has features of great and peculiar advantage that are not found elsewhere in the world for a work that can approximate it in its importance to mankind. It has for its crest line and reservoir the deep lake of Nicaragua, that is fed through a narrow outlet by Lake Managua to the northward, where the heavy torrents from the rainfall in the

mountains are caught and imprisoned. Lake Nicaragua is a rock-bound basin, with a single outlet, called the San Juan River.

This outlet has a deep and constant current of water, without any natural obstructions or sudden falls, and is never flooded with a rise of more than 4 or 5 feet by the heaviest rainfalls, so that it is a safe feeder for the ship canal. The difference in the volume of water discharged between the highest and lowest water in the lake is about 1,000 feet per second. The distance from the Caribbean Sea at Greytown to the Pacific Ocean at Brito is 169.448 miles, all of which will be slack-water navigation except 26.783 miles, which is the length of the prism of the canal, making 142.659 miles of free navigation. A dam at Ochoa, on the San Juan River, the "divide" between the San Francisco River and the Deseado, about 16 miles from Greytown, and a dam at Tola, within 4 miles of the Pacific coast, with a short interval of canalization, extend and establish a clean surface level of 1534 miles over the whole distance of 169½ miles between the oceans.

For the exact measurement of these distances the committee refer to the papers appended to this report. It has impressed the committee that this route has very important advantages in the fact that such a great distance of slack water navigation is secured by the erection of two dams at places where the structures can easily be made entirely secure by the use of material found in abundance along the line of the canal. The surveys for this work were made with the greatest care. They average about 40 miles of preliminary lines to 1 mile of actual location.

At Ochoa, on the San Juan River, below the entrance of the San Carlos River, flowing northward from Costa Rica, the line of the canal diverges to the eastward, while the flow of the united rivers is to the southward.

Behind a range of low hills a valley, or basin, was found, into which the waters of the San Juan will be forced by the dam at Ochoa. In this basin about 9 miles of water at the level of Lake Nicaragua will form a vast estuary and dispense with the necessity of excavating the canal. Another important result is that the canal is beyond the influence of any flood that may occur from the united volumes of the San Juan and San Carlos rivers in the rainy season.

The skillful thoroughness of the surveys have secured a location for the canal that includes every possible advantage that the topography of the country and the easy and cheap control of the best material for its contruction affords.

The dams, banks, slopes, aprons, drains, weirs, locks, and waste-ways have been so located as to assure the permanency of the work.

The quarries of stone along and near to the line of the canal while increasing the cost of excavation, strengthen the work and are of great advantage in the construction of locks and dams and in the building of bridges, piers, moles, and breakwaters and quays in the harbor.

Confronted with the great difficulties that are described in the report of Mr. Davis, and within about twelve months of actual operations, a solid pier has been extended about 1,000 feet into the sea, where the natural depth of the water is 14 feet. The channel to the leeward of this pier is rapidly deepening by the action of the sea and will soon be of sufficient depth to admit the passage of the largest vessels. A safe harbor for the largest ships at the entrance of the canal may now be considered as being assured at a very moderate expense.

Pure cold water is brought in steel pipes for a distance of 10 miles from the hills back of the city of America, on the coast. This gives much security to the health of those employed on the canal.

Provision for the health and comfort of all classes of employés has been carefully made by the company, and the results have been entirely satisfactory, as they are shown in the reports of the surgeon in chief.

The building of storehouses and accommodations for the comfort of the laborers, and providing them with good, wholesome food and clothing, has been of great advantage to the enterprise. All the work done by the company has been attended with careful regard to economy.

The heaviest part of the labor of clearing the dense forests from the line of the canal has been accomplished.

The great swamp of the Deseado River has been crossed with this clearing and the firm ground of the hills has been reached, where the forests are comparatively light and the wood is better for construction purposes. The wood found in the swamps being of light and soft texture decays rapidly, and in the dry season the felled forests are readily destroyed with fire. Between 10 and 12 miles of railroad has been built through this great swamp, and is ballasted with sand. It may be classed as a good and permanent road that supports heavy trains drawn by locomotives of 30 and 40 tons burden, and is sufficient for all the purposes of the construction of the canal, so far as it has been built.

This road is surveyed and located to its terminus at Ochoa, to which point a line of telegraph is in operation from Greytown.

The report of Mr. Davis shows the work that has been done on the Pacific Division of the canal and the great quantity of material and machinery that has been collected there, indicating enlightened and systematic industry and zeal on the part of the company.

This company has engaged the confidence of the Governments and people of Nicaragua and Costa Rica as to its ability and faithful purpose to construct the canal. Their earnest coöperation, thus secured, is an important element of success.

The committee consider that it is not necessary to recapitulate the facts, so fully stated in the papers appended to this report, as to the details of the work on the canal and its cost. No important facts are omitted, and none are unduly colored in statement, so far as the committee have been able to discover.

In some of these papers comparisons are made between the cost of this work and of its engineering difficulties with those works that enable sea-going vessels to reach Lake Superior from tide water on the St. Lawrence River.

Perhaps an accurate estimate cannot now be made of the cost of opening, maintaining, and improving the Welland Canal and the locks at Sault St. Marie, but the lowest calculation will bring the cost up to two-thirds of the sum that the Nicaraguan Canal will cost. The difference in elevation to be overcome is about 500 feet in favor of the route through lake Nicaragua, and the other physical difficulties are greater than those found on the Nicaraguan Canal. When the commerce of the Atlantic and Pacific Oceans is compared with that of the basins of our northern lakes it is obvious that the tonnage that will pass through the Nicaraguan Canal will be many times greater than that through our lakes in the interior.

Mr. Harvey in his report puts this matter in this strong light:

If the tonnage of this canal route upon a water-course composed of a cluster of inland lakes, paralleled through their entire length by railways on both of their borders, and with competing adjacent water-courses as shown, has actually increased from 5,567,741 tons of freight in 1881, to 6,411,423 in 1888, and, presumably to 7,500,000 tons in 1889, what must be the traffic of the ship canal which bisects a hemisphere, saves 10,000 miles and fifty days of freight-steamer time between New York and San Francisco, and economizes proportionately in time and the distance to and from innumerable other commercial centers?

Mr. Harvey also estimates the freight tonnage passing through the Suez Canal in 1889 at 6,800,854 tons, which is 709,168 tons less than that of the Lake Superior Canal at Sault Ste. Marie.

There seems to be no reason to doubt that the Nicaragua Canal will be completed within six years from the date of the passage of the bill herewith reported to the Senate, and that commerce will force its way in ships from ocean to ocean, for the necessities of every maritime country coincide in an urgent demand for the early completion of this work.

SHALL THE GOVERNMENT OF THE UNITED STATES AID IN THE CON-STRUCTION OF THE CANAL.

The closing direction of the Senate is that this committee report its opinion as to what the interests of the United States may require in respect to the Nicaragua Canal, or, in other words, whether in view of existing circumstances it is for the interest of the United States to directly or indirectly aid the Maritime Canal Company in the execution of the work proposed, and if so to what extent and in what manner. This depends upon the ability of the Maritime Canal Company to construct the canal upon the basis of actual cost, so that the tolls and charges need not exceed a fair interest on such cost and the expense of maintenance and administration.

It is a matter of the highest importance that the charges upon the commerce of the world for the use of the improvement should not be

enhanced by interest and dividends on stock and bonds far in excess of the actual cost. It became therefore the first duty of the committee to ascertain whether the Maritime Canal Company intended to or could limit the stock and bonds of the company to the amount of money actually expended, and, if not, what additional stock or bonds would be required to cover contractors' risks, bankers' discounts, and bonus granted to induce investors to incur the real and imaginary risks of an investment that could yield no income until the work of six or seven years was completed.

Your committee therefore called before them the officers and engineers of the Maritime Canal Company, and also of the Construction Company employed by the Maritime Company to actually construct the work, to ascertain what contracts and agreements had been made between them and what plan was proposed to raise the large sum of money needed. A copy of the statements made and the documents furnished in the process of this examination are made a part of this report.

It appears from the estimate of A. G. Menocal, chief engineer, dated January 31, 1889, to the president and board of directors of the Nicaragua Canal Construction Company, that the cost of the work proposed, without interest and contingencies, was \$65,084,176. It also appears by the report of the board of consulting engineers, revising the reports of the chief engineer, that the estimated cost is increased to \$73,166,308. To this estimate they add for certain specified and unspecified contingencies of construction \$14,633,262, making the total estimate \$87,799, 570. These estimates are based upon a plan of construction which contemplated that the work could be completed within six years. The interest accruing on the money actually invested as the work progressed. at the rate of 5 per cent., if the work was completed within six years, assuming an equal expenditure each year during the period of construction, would be equivalent to 15 per cent., or \$13,000,000, making the aggregate of expenditure of money and accruing interest thereon for the full completion of the work of about \$100,000,000.

This estimate, your committee is of the opinion, from such judgment as it can form upon the documents furnished, is a reasonable estimate of the cost of the completed work if paid for in money. There are elements of unavoidable contingencies which may largely increase this cost, such as grave financial disturbances that may advance the rate of interest, such legislation as will diminish the purchasing power of money, possible contingencies arising out of disturbances in the local governments of Costa Rica and Nicaragua, and from natural convulsions, storms, or earthquakes, which can not be foreseen and of which there is no reasonable fear. The estimates of the actual cost of the work and of contingencies seem to be sufficiently liberal to cover all probable expenditures, and lead your committee to the belief that the amount stated, \$100,000,000,000, if furnished as needed without delay or impairment of vaiue will be ample to complete the work proposed.

It became important in the first instance to ascertain how it was proposed by the Maritime Canal Company that this large sum should be raised. The statement of Mr. Hiram Hitchcock, president of the Maritime Canal Company of Nicaragua, and of Hon. Warner Miller, president of the Nicaragua Canal Construction Company, show clearly the plans proposed by the two companies to raise the money requisite.

The act incorporating the Maritime Canal Company of Nicaragua provides that the capital stock of said company shall consist of not less than 1,000,000 shares of \$100 each. or \$100,000,000, with the right to increase the capital stock to 2,000,000 shares of \$100 each, or \$200,000,000 on the vote of two-thirds of the stock of said company at any time outstanding. It also authorizes the company in the construction of said canal, and to carry out the purposes of the act, to issue its bonds and secure the same by mortgage on its property and rights of property of all kinds and descriptions, real, personal, and mixed, including its franchise to be a corporation. The amount of said bonds is not limited, but assuming, as the act contemplates, that it would be equal to the amount of stock outstanding, the amount of stock and bonds might range from \$200,000,000, to \$400,000,000, with authority to increase the amount of bonds to an indefinite extent.

Under the provisions of this charter the Maritime Canal Company entered into a provisional contract by which the canal company agreed to pay the Construction Company for the work proposed stock to the amount of \$92,500,000, being the total stock authorized, less concessions to Nicaragua and Costa Rica, and \$150,000,000 in bonds, an aggregate of \$242,500,000. It was assumed that the bonds of the company. bearing interest at 5 or 6 per cent. per annum, could be sold at the rate of about 60 cents on the dollar, the rate at which the first bonds of the Suez Canal were sold. The stock was to be given to the contractors as a bonus to induce them to undertake the contract. In view of the difficulties in the way of the enterprise, your committee is of the opinion that the contract was as favorable a one as could be made, if we may judge by the contracts made for similar undertakings by private companies and in view of the risks and hazards of the future. The ability of the Construction Company to perform the work, even for this great sum, would depend entirely upon its ability from time to time to sell the securities of the Maritime Company.

Any stringency or fluctuation in the money market might prevent their sale and thus arrest the progress of the work. Any neglect on the part of the Governments of Nicaragua and Costa Rica to protect the contractors in the performance of the work would necessarily add to its cost, and, perhaps as in similar enterprises disable the company and forfeit their charter privileges. Any failure of the bankers purchasing these securities to pay for them according to the conditions of the sale would have the like effect. The work is so great and the benefits of its completion so transcendent that it would seem that its exe-

cution should not be left to private enterprise that, in the chances of the future, may fail. It is doubtful whether any private company, corporation or combination, however strong it may appear, would be able to complete so great an enterprise, one that could yield no income during its progress and could not in any event yield profit until after the whole enterprise was completed. Unlike railroads, the investment could not yield any income or profit until it was demonstrated by actual trial that commercial vessels could pass from ocean to ocean with reasonable facility and without delay or danger. In whatever view the committee could take of the enterprise there appears grave doubt whether it could be executed without the strong, certain, and powerful support of a great nation or a combination of nations.

Even if completed upon the plan proposed, the amount of stock and bonds outstanding would at 5 per cent. require that the tolls and other income of the company would yield \$12,500,000 a year, a sum that would be so great a burden on the commerce of the world as to leave it questionable whether vessels would pass through the canal or follow the old course of navigation around Cape Horn. The gentlemen engaged in the enterprise are confident of their ability to execute the work. They did not express a desire for aid but seemed to have entire confidence of their success. They have already expended, as we are advised, about \$4,000,000 and are negotiating contracts and loans.

The committee, however, felt grave doubts, and it was apparent that at all events the necessities of the company would compel them to sell their stock and bonds in the best market at a large discount. The stock and bonds would naturally flow into the hands of European bankers, and with them the ultimate control and government of the canal. For more than seventy years the United States has carefully adhered to the policy of the noninterference of European powers with the integrity or autonomy of American nations. This canal will be to the United States a part of its coast wise channel from the Atlantic States to the Pacific States. The concessions made by Nicaragua and Costa Rica are to an American company with stipulations and privileges in favor of the United States. The interests of the people of the United States are much greater in the proper management of the canal and in its free use at reasonable tolls than any foreign power.

The Maritime Company as now organized may be trusted to protect the interests of American citizens, but its willingness to do so may be changed by a change in the ownership of stock. Many examples of that kind have occurred when combinations and even foreign governments have bought the majority of the stock of a corporation with a view to its control. To leave the interests of the people of the United States dependent upon the cupidity of a corporation controlled necessarily by its changing its pecuniary interests and which may fall under the influence of rival powers would be to surrender the great advantages expected by our people from the use of the canal in shortening by over 10,000 miles

the passage of vessels from our ports on the Atlantic to our ports on the Pacific, as well as to endanger the vast trade that it is expected will spring up from the United States through the canal to the western ports of South America and to Asia and Australia. While the United States does not desire to have a monopoly of these benefits, but is willing upon just considerations to share them with all the nations of the world, yet we are more deeply interested than any other in making the burden of this transit as light as possible, and to secure its completion at a sum the interest of which will not be too great a burden upon commerce.

These considerations led your committee without division to the conclusion that it is the interest of the United States to make such a contract with the Maritime Canal Company as would certainly assure the completion of the canal within the period of six years at its actual cost in money, to be represented by bonds of that company guarantied by the United States, which in any state of the money market would be sold at not less than par, the United States to be indemnified against liability on its guaranty by a pledge of a majority of the capital stock of the company with power to vote such stock. Thus, without loss to the United States, it would secure the early and complete construction of the work at its actual cost and such reasonable control of the transit as would give to our citizens at least equal advantages in the use of the canal.

In this way, assuming that the estimate of the cost of the canal is reasonable, which the committee propose to have tested by United States engineers, the United States could secure to the people of Nicaragua and Costa Rica (who from their position are most interested in the canal), to the people of the United States, who will probably maintain the largest commerce over it, as well as to all the nations of the world, the use of the canal at the lowest tolls that will reimburse and save harmless the United States from its guaranty, and yet will yield to the actual builders of the canal moderate profits, without watered stock or discredited bonds resulting in unnecessary burdens upon ves sels passing through its waters.

This has been the object of the United States in all the treaties made and negotiations had with the Central American States and other foreign powers during a period of seventy years. Every President since and including Mr. Monroe has participated in this negotiation, and all of them have favored the construction of an interoceanic canal from the Atlantic to the Pacific across the isthmus to be practically under the control of the United States, but to be open to the commerce of the world. To secure the best practicable route the United States has conducted many elaborate and expensive surveys, with full details as to every route proposed from Mexico to Colombia, resulting in the concurring judgment of nearly all the engineers and officers of the Army and Navy that the route proposed by way of Lake Nicaragua is the best.

In communicating some of these surveys to the Senate, President Hayes thus stated the American doctrine in respect to the proposed canal:

The policy of this country is a canal under American control. The United States can not consent to the surrender of this control to any European powers. If existing treaties between the United States and other nations, or if the rights of sovereignty or property of other nations stand in the way of this policy—a contingency which is not apprehended—suitable steps should be taken by just and liberal negotiations to promote and establish the American policy on this subject, consistently with the rights of the nations to be affected by it.

The capital invested by corporations or citizens of other countries in such an enterprise must, in a great degree, look for protection to one or more of the great powers of the world. No European power can intervene for such protection without adopting measures on this continent which the United States would deem wholly inadmissible. If the protection of the United States is relied upon, the United States must exercise such control as will enable this country to protect its national interests and maintain the rights of those whose private capital is embarked in the work.

An interoceanic canal across the American isthmus will essentially change the geographical relations between the Atlantic and Pacific coasts of the United States, and between the United States and the rest of the world. It will be the great ocean thoroughfare between our Atlantic and our Pacific shores, and virtually a part of the coast line of the United States. Our mere commercial interest in it is greater than that of all other countries, while its relation to our power and our prosperity as a nation, to our means of defense, our unity, peace, and safety, are matters of paramount concern to the people of the United States. No other great power would, under similar circumstances, fail to assert a rightful control over a work so closely and vitally affecting its interest and welfare.

Mr. Evarts, then Secretary of State, in the same connection said:

The natural interest of the United States in any connection through the American Isthmus has not only been always emphatically expressed by the government, but it has been fully and distinctly recognized by other governments from the earliest period of our national existence.

By the treaty negotiated in 1884 between the United States and Nicaragua the canal was to be built by the United States. It was still pending in the Senate when Mr. Cleveland became President. He withdrew it, not from opposition to its general purposes, but because, as he states in his annual message of December, 1885, it was "coupled with absolute and unlimited engagements to defend the territorial integrity of the States where such interests lie." He held that this clause was an "entangling alliance," inconsistent with the declared public policy of the United States. This objection led to the concessions by Nicaragua and Costa Rica to private persons, and the incorporation by the United States of the Maritime Canal Company of Nicaragua.

These concessions and the charter provide expressly that the United States may aid the company by a subscription of stock or otherwise. If such aid is rendered it must be rendered now. If the Maritime Canal Company is to enter the money market without our aid as a borrower of \$100,000,000 to be expended within six years, it must execute its mortgage now for an amount that will probably yield that sum as needed. The swollen cost will largely fall upon the people of the United States

in the form of tolls. If the work is, as we confidently believe, one of transcendent value to the United States—worthy to be done by a great nation—which will cost only its credit without being a burden to the taxpayer, one that will not in any event cripple its resources, but will be a monument of its power and its beneficence more enduring than the monuments of antiquity, a realization of the dreams of all nations for four centuries, it ought to be undertaken not by a corporation alone, but aided by the United States for the benefit of the American continent and the commercial world. It is an act worthy to commemorate the beginning of the second century of our existence as a nation and of the public policy upon which we have entered of uniting the Republics of America by works of peaceful development.

The practical difficulty of the committee was in determining in what manner and to what extent the United States should aid in this enterprise. Nicaragua and Costa Rica were quite willing that this Government should directly construct the work, but for the reasons stated the treaty for this purpose was not ratified. The Maritime Canal Company was interposed by act of Congress. Composed exclusively of citizens of the United States, they were not desirous of surrendering what they regarded as a favorable business enterprise. The plan proposed in the accompanying bill was dictated by this committee, and, after many conferences, agreed to by that company, subject to the approval of Congress. The company is now actively engaged in construction, and it is but fair to it that if the bill is to become a law Congress should act as speedily as possible, so that the company may not be delayed in its contracts.

The bill herewith reported is founded upon the theory that the cost of the completed work shall be represented only by bonds and stock to the amount of money actually spent in construction and the accruing interest paid in its progress.

The bill proposes to limit the stock of the Maritime Canal Company to 1,000,000 shares of \$100 each and no more. By the concessions of Nicaragua that country is entitled to 6 per cent. or \$6,000,000 of the stock of the company for the liberal grants made to and privileges conferred by that country upon the Maritime Construction Company, a copy of which is hereto attached. Costa Rica for similar concessions on her part is entitled to \$1,500,000 of this stock.

By the terms of these concessions the Maritime Canal Company became entitled to \$12,000,000 of the capital stock, and this amount has been, by the agreement with the Construction Company, transferred to the latter company. The agreement heretofore referred to between the Maritime Company and the Construction Company provided for the transfer of the residuum of the stock and also 150 million dollars of bonds to be issued in payment for the work as performed. By that agreement the ownership and control of both companies would follow the ownership of the stock and bonds. By the bill proposed all certfi-

cates of stock and all contracts, assignments, and transfers of stock other than the stock to which the Governments of Nicaragua and Costa Rica are to be surrendered and canceled, except the sum of \$3,000,000, which is to be retained by the Maritime Company or its stockholders in full payment and satisfaction of the concessions and agreements and advantages obtained by them.

The United States is to reimburse the Maritime Canal Company the amount expended in promoting the enterprise and in the surveys and construction of the work thus far performed, including all expenditures in connection therewith upon statements to be made, but subject to the approval of the Secretary of State and the Secretary of the Treasury. The canal shall thereafter be constructed from the proceeds of the bonds of the Maritime Company, guarantied, as aforesaid, in payments as the work progresses, not less frequently than every sixty days. tracts or engagements of whatever name or nature now existing or outstanding not consistent with the provisions of the bill are to be canceled and set aside, and the work is to be proceeded with upon estimates made by United States engineers and to be paid for at actual cost by bonds, or the proceeds of bonds, of the kind and description mentioned. All the expenses of the work, including interest on the guarantied bonds issued, are to be paid by the Maritime Canal Company of Nicaragua, and upon the failure of said company to pay the interest as it accrues, it is to be paid by the United States. The interest proposed on the bonds is 3 per cent., payable quarterly, and running for a period of twenty years.

To indemnify the United States from all liability upon its guaranty \$70,000,000 of stock of the Maritime Company is to be deposited with the Secretary of the Treasury and no stock other than that already named is to be issued except when, in the opinion of the President of the United States, the installments of the mortgage bonds shall be insufficient to meet the current requirements of the company in respect to the enterprise. The Secretary of the Treasury has power, at his discretion, to vote the stock pledged to the United States, either in person or by proxy, at any meeting of the stockholders of said company, and the United States is entitled to a representation of six members upon the board of directors composed of fifteen persons.

These, in brief, were the terms suggested by your committee to the Maritime Canal Company and the Construction Company, and, after many conferences, a full report of which is hereto attached, the officers of said companies agreed to the terms and conditions proposed. This bill, if it should become a law, would, in the opinion of your committee, secure, without reasonable doubt, the prompt completion of the Nicaragua Canal at its actual cost, and secure to the United States a reasonable and proper control in conformity with the concessions granted by Nicaragua and Costa Rica. The management and conduct of the work is left with the Maritime Company, but under such restraints as will

insure economy and with the strongest inducement to limit its obligations to the actual cost of the work, so that the tolls upon it will not be swollen to pay for watered stock or bonds of doubtful credit.

The United States becomes a party strong enough to cope with the magnitude of the enterprise, and to give confidence not only to its securities, but to its safety from injury from internal or external forces. It is believed by your committee that the United States will not be called upon to pay any portion of the principal or interest of the bonds, but that the work itself will amply repay all its cost, and yield its benefits not only to the people of Nicaragua and Costa Rica, but to the civilized world. If it appeared at any time that the interests of the United States are in jeopardy from any cause, it can purchase the majority of the stock and become the controlling owner of the canal by paying its own bonds to an equal amount, and the property, tolls, income, and profits of the canal will be an ample security against the obligations it assumes.

The committee therefore recommend the passage of the bill.

John Sherman, Chairman.
Geo. F. Edmunds.
WM. P. Frye.
WM. M. Evarts,
J. N. Dolph.
John T. Morgan,
Joseph E. Brown.
H. B Payne.
J. B. Eustis.

APPENDIX 1.

TABLE SHOWING DISTANCES IN MILES BETWEEN COMMERCIAL PORTS OF THE WORLD AND DISTANCES SAVED BY THE NICARAGUA CANAL.

From			Via Cape Horn.	Via Cape of Good Hope.	Via Nicari gua Canal	1	Distance saved.	
New York to—			Miles.	Miles.	Miles		Miles.	
San Francisco			14, 840	ALL COOR.	4, 9		9, 894	
			17, 921		8, 0		9, 895	
Behring Strait			16, 105		6, 20		9,896	
Acapulco			13, 071		3, 1		9, 949	
Mazatlan			13, 631		3, 6		9, 949	
Hong-Kong			18, 180	15, 201	11, 0		4, 163	
Yokohama			17, 679	16, 190	9, 30		6,827	
Melbourne			13, 502	13, 290	10, 0		3, 29 0 3, 870	
New Zealand			12, 550 14, 230	14, 125	8, 6; 6, 3;		7, 842	
Callao			10, 689		3, 7		- 6, 988	
Guayaquil			11, 471		3, 0		8, 418	
Valparaiso			9, 750		4, 6		5, 062	
New Orleans to-			0,100		2 , 0		0,002	
San Francisco			15, 052		4, 0	47	11,005	
Acapulco			13, 283		2, 4		10,874	
Mazatlan			13, 843		2, 9		10, 874	
Guayaguil			11, 683		2, 3		9, 343	
Callao			10, 901		2, 9		7, 913	
Valparaiso			9, 962		3, 9	87	5, 975	
Liverpool to-			44 000				0.000	
San Francisco			14, 690		7, 6		6, 996	
Acapulco			12, 921 13, 481		5, 8		7, 051	
Mazatlan			13, 352	13, 140	6, 430 12, 748		7, 051 392	
New Zealand			12, 400	13, 975	11.3		1, 051	
Hong Kong			18, 030	15, 051	13, 7		1, 265	
Yokohama			17, 529	16, 040	12, 1		3, 929	
Guayaquil			11, 321	20, 020	5, 8		5, 431	
Callao			10, 539		6, 4	49	4, 090	
Valparaiso			9,600		7,4		2, 144	
Sandwich Islands			14, 080		9, 1		4, 944	
Spain to Manilla			16, 900	13, 951	13, 5	20	431	
France to Tonquin			17, 750	15, 201	13, 8	87	1, 314	
Hamburg to-			10 001			00	7 051	
Mazailan			13, 931		6,8		7, 051 7, 051	
AcapuicoFonseca			13, 371 11, 430		5, 5		5, 900	
Punta Arenas, Costa Rica			11, 120		5, 5		5, 605	
Tunto Zionas, Costa Isloa			11, 120		0,0	20	0, 000	
	To eastern				1	To	western	
77	entrance of		-				atrance of	
From- Nicaragua From-						N	icaragua	
	Canal.		,				Canal.	
	Miles.						Miles.	
New York	2, 021	1 San Francisco					2, 776	
Liverpool	4, 769						2, 518	
Hamburg	5, 219						1, 531	
Amsterdam	4, 994	Portland					3, 219	
27								
Havre	4, 874	Victoria.					3, 428	
Havre. Cadiz New Orleans	4, 874 4, 220 1, 308	Victoria					3, 428	

Note.—The distances are measured by customary routes most convenient for stiling ships and alow freight steamers.

APPENDIX A.

THE NICARAGUA CANAL -- ITS DESIGN, FINAL LOCATION, AND WORK ACCOMPLISHED.

IBy A. 4. MENOCAL, Chief Engineer Nicaragua Canal Construction Company, (U. S. N., M. AM. SOC. C. E., etc.)]

The idea of establishing a waterway across the American isthmus dates back from the beginning of the sixteenth century, when the early navigators, perceiving the narrow neck of land separating the two oceans, were forcibly impressed by the advantages to be derived by cutting a canal through it. The Isthmus of Panama, being the narrowest part of that strip of land, and Nicaragua, on account of the evident natural facilities presented by the lake and its outlet, the river San Juan, have always been the main points of attraction as possessing the most favorable features for doing the work, and as early as 1550 the Portuguese navigator Antonio Galvao proposed four routes; one of which was by way of Lake Nicaragua and the San Juan River, and another through the Isthmus of Panama. As the configuration of the isthmus became better known, the belief in the practicability of joining the two oceans by a canal gradually increased; but it was not until the beginning of the present century, when through the indorsement of Humboldt, who had studied the problem on the ground, and later on through the united efforts of the Central American Republics, that the question commenced to assume a well-defined shape. these States and the Republic of New Granada were anxiously soliciting the cooperation of other nations and of capitalists in favor of the undertaking, no regular surveys had been made of any portion of the isthmus; the routes proposed and claimed to have been discovered being the result of imperfect reconnoissances or of the imagination. It was evident, moreover, that the work would require the expenditure of large sums of money; and, while it was universally admitted that the canal would be of great advantage to the world at large, it was not equally clear that the probable traffic seeking it would be sufficient to pay interest on the capital invested. But the gold discoveries following the acquisition of California by the United States, and the subsequent rapid development of the vast commercial and agricultural interests of the Territories lying on the Pacific slope, exerted a powerful influence in attracting attention to the commercial and political importance of the canal. What had until then been regarded as a humanitarian scheme or a geographical desideratum became a political and commercial necessity, and the attention of the American statesmen, capitalists, and scientists was at once directed to finding the most practical solution of the problem.

The idea of establishing a continuous water communication between the two oceans has been always recognized as the only means of satisfying all the requirements of commerce, but a satisfactory solution of all the unknown quantities entering into such a vast undertaking could not be reached without serious surveys of the isthmus, and these required time and the adjustment of political difficulties with other nations interested in the proposed work. In the mean time the Americans, anxious to meet the increasing demand for means of communication between the two oceans consequent to the rapid development of the Pacific coast, turned their attention to an overland route, and, having obtained a concession from the Republic of New Granada, in 1849 organized a company and intrusted the surveys for a railroad to Col. G. W. Hughes and J. C. Trautwine, well-known civil engineers. This was the first authentic survey made across the isthmus, and resulted in the con-

struction of the Panama Railroad between 1850 and 1855.

In the meantime the Government of the United States, alive to the importance of the canal, had ordered a reconnaissance of the Isthmus of Tehnantepee, and, by diplomatic negotiations with Nicaragua, had encouraged and supported the organization of the Atlantic and Pacific Ship Canal-Company, which had obtained from Nicaragua the right to build the canal, and, pending the completion of the work, to

establish a transit between the Caribbean Sea and the Pacific Ocean, to facilitate the commerce between the two oceans, by way of the river San Juan and Lake Nicara-

This company intrusted the survey for a ship canal to Col. O. W. Childs, a conscientious and able engineer. He examined in 1850 several routes between Lake Nicaragua and the Pacific Ocean, and is entitled to credit for the discovery of the lowest depression in the Cordilleras between the Arctic Sea and Cape Horn. this divide, which he found to be 152 feet above sea level, he located a route for the canal extending from the mouth of the river Lajas, on the west shore of the lake, to the Port of Brito, or the Pacific, the main features of which have stood the test of many subsequent surveys and rectifications in that region, and have been incorporated in the plan of the final location of the canal across that country. Col. Childs's plan contemplated the use of the lake as the summit level, and of the valley of the river San Juan, its outlet, to its delta, through which he proposed to excavate a canal following the left bank of the river to Greytown. This survey was the first on the isthmus for a ship canal conforming to the requirements of engineering, and its accuracy has been fully confirmed by subsequent explorations.

Much might be said here to show the great interest evinced by the Government of the United States in the building of a canal, and to demonstrate the fact that the only thorough surveys made on the isthmus with the view of establishing the practicability and cost of the work have been done either by the Government directly or

by American citizens under its auspices.

It is interesting and instructive to follow, step by step, the American explorations on the isthmus from Tehauntepec to the Gulf of Darien, but this paper deals with the proposed Nicaragua Canal, which is believed to be the only practicable route for connecting the two oceans by a ship canal. This conclusion is the result of forty years of exhaustive studies over the whole isthmus and of a valuable lesson so dearly taught by an unfortunate attempt to prove the practicability of building a canal by the expenditure of vast sums of money in useless excavations and wild schemes for removing insuperable natural obstacles prior to a thorough examination of the physical conditions.

The period from 1870 to 1876, during the administration of General Grant, was one of marked activity in the explorations of the isthmus, and it may be said that the question as to the route possessing the greatest advantages was settled in February,

1876.

The commission appointed by President Grant in 1872 to report upon the various plans submitted by the surveying parties consisted of General A. A. Humphreys, Chief of the United States Corps of Engineers; Mr. C. P. Patterson, Superintentent of the Coast Survey, and Commodore Daniel Ammen, Chief of the Bureau of Navigation of the Navy Department.

On February 6, 1876, the commission submitted its decision to the President of the United States, in which it was said: "After a long, careful, and minute study of the several surveys of the various routes across the continent, we unanimously report that the route known as the Nicaragua route possesses, both for the construction and maintenance of a canal, greater advantages and offers fewer difficulties from engineering, commercial, or economical points of view than any of the other routes shown to be practicable by surveys sufficiently in detail to enable a judgment to be formed of their relative merits, as will be briefly presented in the appended memo-

The routes considered by this commission were the Tehauntepec, the Nicaragua, the Panama, and the Atrato-Napipi. The surveys conducted by the Government of the United States at other points did not develop physical conditions favorable enough to justify a location sufficiently in detail to form an estimate of the cost, and the results of the explorations were examined by the commission only in so far as was

necessary to show their impracticability or inferiority as compared to other routes.

The survey of the Nicaragua route by the United States Government was commenced in March, 1872, and continued until July, 1873. Eight different routes between the lake and the Pacific were carefully examined. The correctness of Childs's survey from the mouth of the river Lajas to Brito was carefully confirmed, and, while the low divide was a strong feature in favor of his location, the problem of properly draining the valley of the Rio Grande was not at the time satisfactorily solved, and the next best route, extending from the mouth of the small stream Del Medio at the lake north of Lajas to a point on Childs's line 9 miles west of the lake, and thence following Childs's line to Brito, was adopted and carefully located.

In this, as in all projects for a canal across Nicaragua, the lake was taken as the summit level, and in this location its mean level was assumed to be 107 feet above sea level. East of the lake slack-water navigation was secured in the river San Juan for a distance of 63 miles by the construction of four dams, the lower dam being below the confluence of the San Juan and San Carlos Rivers. Below that point the canal was proposed to be excavated for a distance of 41.9 miles on the right bank,

and following the general direction of the river to the outlet, San Jnanillo, where it turned almost directly to Greytown. Twenty-one locks, with an average lift of ten feet, were proposed; ten on the Atlantic and eleven on the Pacific slope. This project was a decided improvement on that proposed by Childs, but in its general outline the design did not differ very materially from his. Its main features were as follows:

Canal in excavation	63.02
Total miles from ocean to ocean	

The total cost was estimated at \$65,222,147.

Number of dams across the river San Juan

The writer, who had been the chief engineer of the Government surveys, recognized the practicability of the canal by this route, but was not satisfied with the location. The Lajas line, with its low divide of 152 feet, had been reluctantly abandoned on account of difficulties in the drainage problem, and the Medio route, with 90 feet greater depth of cutting, had been adopted instead, thereby increasing the difficulties in construction and by several millions of dollars the cost of the work.

In the Eastern Division the frequent interruptions of the river navigation by the interposition of dams was not a desirable feature, and the sharp curves and too close proximity of the canal, in excavation to the river, in several places, should, if possible, be eliminated from the problem. There were, also, too many locks, which together with the long stretch of canal in excavation, would necessarily tend to

retard navigation and restrict the capacity of the canal for traffic.

The Government surveys were intended to show the practicability of the canal, and that object had been fully attained in the comparatively short time devoted to the work, but it was quite evident that before the project was finally adopted as a commercial enterprise, important modifications should, and could, in my opinion, be introduced in the original designs. To what extent this has been accomplished will be shown in the description of the route finally located and adopted by the present Nicaragua Canal Construction Company. In 1876-777, while surveying the delta of the San Juan and harbor of Greytown for the purpose of devising plans for the improvement of the navigation of the river and the restoration of the harbor, I had occasion to make extensive reconnoissances in a direct line connecting Greytown with the end of slackwater navigation in the San Juan River, my object being to find, if possible, a direct route joining those points, in lieu of the long and torthous line following the bank of the river. These explorations, conducted from both ends of the desirable location, and in opposite directions, could not be completed within the time then at my disposal. There remained a gap of 4 or 5 miles yet to be examined, but, so far as carried out, the results of the explorations were extremely gratifying, with strong loud.

In 1880 I devoted my attention to a rectification of the Lajas location, and succeeded so far as to reduce the length of the route by 1½ miles; eliminate several curves and enlarge the radius of others; decrease the amount of excavation in the narrow valley of the Rio Grande, and, what was of the greatest importance, found a satisfactory solution of the drainage problem by diverting the waters of the Grande, above its confluence with the canal, through an artificial channel, and the rivers Juan Davila and Lajas into the lake, thus leaving the narrow valley of the stream

free for the canal.

That much having been accomplished in the Western Division towards the contemplated improvement of the original location, a greater interest was naturally felt for a thorough rectification of the eastern section. In 1885 the Government of the United States, immediately after having completed a treaty with Nicaragna for the construction of the canal, directed ine, at my own suggestion, to proceed to Nicaragna with a party of competent assistants and ascertain the practicability of introducing favorable modifications in the eastern section of the canal location. The results attained by this last examination, together with what had been previously secured west of the lake, were all calculated to attract the attention of engineers and capitalists, and the organization of the company chartered by the United States Congress and now building the canal, soon after followed. The results of this survey can be found in detail, in book form, in my report to the honorable Secretary of the Navy, dated November, 1885, and entitled "Report of the United States Nicaragna Surveying Party" (Ex. Doc. No. 99, Forty-ninth Congress, first session).

The company was well aware, however, that while these surveys were ample to prove the practicability of the canal, and sufficient in detail to arrive at an approximate cost of the work; yet they were only intended as a preliminary location, and

more thorough studies, comprising the minutest details, were still wanted before actual construction could be commenced. Therefore the first work undertaken by the company, immediately after its organization, was to fit out and send to Nicaragua a numerous corps of competent engineers, with instructions to make a thorough relocation of the whole route and accessory works, so as to eliminate all doubtful elements and to arrive at an accurate estimate of the character, amount and cost of all the work required for the completion of a canal ample for the navigation of the largest ships affoat, and the passage of the maximum traffic likely to seek it.

Six land surveying parties, one hydrographic party, and two boring parties, have been for two years and a half making this verification, and although the axial distance of the land survey (exclusive of the lake and river) is less than 50 miles, the length of lines actually surveyed by transit and level, in cross-sectioning, location of locks, dams, embankments, railroads, flowage lines, drains, etc., is not less than 4,000 miles, or at the rate of 40 miles of actual instrumental survey for every mile of final location. The result of this laborious work has been a verification of the location of 1885 in its essential features, but with marked improvements in the details, and the final location of the route upon which the canal is now being constructed, and which I will proceed to describe in a concise form.

THE PROPOSED ROUTE.

San Juan del Norte (Greytown) on the Atlantic, and Brito on the Pacific, are the termini of the canal, the total distance from port to port being 169,448 miles, of which 26.783 miles will be excavated canal and 142.659 miles free navigation by Lake Nicaragua, the river San Juan, and through basins in the valley of the streams Deseado, San Francisco, and Tola. Lake Nicaragua is necessarily the summit level of the canal, and its elevation above mean sea level is taken at its mean at 110 feet. It will be connected with the Pacific by two sections of canal in excavation and the Tola basin, and with the Atlantic by slackwater navigation through the valley of the river San Juan, and a series of basins in the valleys of the San Francisco and Deseado, connected by short sections of canal, the sea level on each side being reached by three locks which have been located as near as possible to the extremities of the canal, viz, 3½ miles from Brito and 12½ miles from Greytown, thereby giving a clean summit level of 153½ miles in extent out of a total distance of 169½ miles, as stated above. For purposes of description the route has been divided into four divisions, viz, Eastern, San Francisco, Lake and River, and Western.

Eastern Division.

[From thei nner harbor of San Juan del Norte (Greytown) to the San Francisco Basin, 18.864 miles.]

The line selected and located starts from the inner harbor of San Juan del Norte and extends in a southwesterly direction for a distance of 9,297 miles to Lock No. 1, in the valley of the small stream Deseado, which descends from the high ridge separating the valley of the San Juanillo from that of the Caño San Francisco. Where the stream Deseado interferes with the course of the canal, it is to be diverted by artificial channels. These first 9.297 miles of canal will be at the level of the sea, forming practically a prolongation of the harbor of Greytown, the width proposed allowing ample room for the passage of vessels going in both directions. The excavation will be entirely through flat, alluvial deposits, as shown by the numerous harings taken along the whole line.

borings taken along the whole line.

The first lock from this reach will have a lift of 30 feet, and the uniform dimensions of chamber adopted for all the locks, viz: 650 feet long and 70 feet wide. A suitable rise of ground for the site of the lock is met with in the lower valley of the Deseado. From the head gate of Lock No. 1, to Lock No. 2, the canal follows the valley of the Deseado, which is here partially flooded by the construction of four low embankments connecting the site of Lock No. 1 with the sides of the valley. In this manner the canal excavation, which here consists chiefly of stiff red clay underlying a thin stratum of loam, is much reduced, and the drainage economically and efficiently controlled by suitable weirs of maximum flood capacity.

Lock No. 2, located 1.258 miles above the head gate of Lock No. 1, has a lift of 31 feet and will rest on solid ground, a hill on the south side of the valley affording an

excellent site for it.

Lock No. 3, with a lift of 45 feet, is located 124 miles from Greytown and 1.927 miles from the head gate of Lock No. 2. This section of the canal occupies the lower basin, made in the valley of the Deseado by the erection of a dam 38 feet high and 1,300 feet long across the stream, and two embankments of an aggregate length of 1,400 feet and about 20 feet high, on the top of the confining ridges. The only excavation needed through this basin is in cutting across three low hills of red clay.

At this point the valley of the Deseado is spanned by an embankment 70 feet high and 1,050 feet long, resting on two high hills, and the gaps on the ridge connecting

this embankment with the sides of the valley are closed with small embankments aggregating 5,800 feet on the crest, with an average height of 20 feet to the level, 112 feet above sea level. By this means a basin 3.086 miles long is created in the valley of the stream in which a depth of from 30 feet to 70 feet is obtained, without excavation, for a distance of 2.598 miles. It is proposed to retain the water in this basin at an elevation of 106 feet above sea level; in other words, the summit level of the canal is carried across the "divide" and extended to Lock No. 3, or to within 121 miles of the Atlantic, and but 31 miles from the sea level, which, as stated above, reaches 91 miles up from Greytown. The advantage of these two large reservoirs in close proximity to the locks need not be commented upon, and the facilities afforded as a "turnout" for ships in waiting and traveling in opposite directions can not be overestimated. The dam is proposed to be built of stone or what is termed "rockfill," with earth backing, and will have a weir 600 feet long on the crest, and a fall of 45 feet for the discharge of the surplus water into the lower basin. This will be supplemented by another weir 800 feet long, located on the south side of the valley in a gap between the hills inclosing the upper basin, giving a total length of weir of 1,400 feet.

At the western extremity of this basin begins the Eastern Divide cut, connecting the valley of the Deseado with that of the Caño San Francisco. This cut is 2,917 miles long, has a maximum cut of 298 and average depth of 111,2 feet above the level of the water, the depth in the canal being 30 feet, and contains about 21 per cent. of

the total excavation estimated for the whole canal.

The magnitude of this work grows less striking as we proceed to examine its importance as a factor in the solution of the problem, the local advantages for its execution, its permanency when finished, and the advantageous and economical disposition of the material to be excavated.

First.—It will be observed that this cut is almost in a direct line between Ochoa and Greytown, which are the two objective points of the canal; the former being the point at which it must, of necessity, leave the San Juan River, and the latter equally

necessary as its terminus on the Atlantic.

Second.-It is the lowest point along the whole ridge which intervenes between

these two points, and nearly equidistant from each.

Third .- It is also the narrowest pass, by several miles, of any other on the ridge, the valleys of the Deseado on one side and the San Francisco on the other, here penetrating it farther than elsewhere, thus allowing the greatest possible extension of their basins with the least excavation.

Besides the above there are several other important advantages connected with

this particular pass entitled to much consideration.

First.—The material to be removed is in the main solid rock; therefore the volume of excavation is reduced to a minimum, and the cut, when made, will remain so

forever without further expense.

Second.—The material is needed for the construction of the dam at Ochoa, for the embankments between Ochoa and Greytown, for the construction of the locks, for the breakwater at Greytown, and for pitching the sides of the canal, and the surplus can be dumped in the immediate vicinity.

Third.—The center of distribution is most conveniently located, and were not this material available, at the sole expense of transportation down grade, it would have to be obtained at considerable cost from quarries in the vicinity, as there is no rock

easy of access between Ochoa and Greytown, except in this ridge.

Fourth.—The locality is one of the healthiest in Nicaragua, the drainage is perfect,

and water abundant and excellent for domestic uses.

Fifth.—There is close at hand on both sides of the ridge an inexhaustible water power for the economical and convenient operation of all the machinery required to

do the work.

Possessing, therefore, as it does, this truly marvelous coincidence of favorable circumstances, it would seem as though the very hand of nature had made this particular spot with the view of facilitating the execution of the greatest undertaking of this or any other age. With proper appliances and good management, so much of the work in the adjacent sections being dependent upon the material to be got from this cut, an even rate of progress can easily be maintained and the whole work be pushed to completion well within the six years estimated as the time for completing the canal.

> San Francisco Division, 12,500 miles. [From the western end of the Divide cut to the River San Juan at Ochoa.]

On the western slope of the divide, the canal follows the valley of the Limpio for

1.477 miles to the end of the cut. Before falling into the San Francisco basin it passes for .738 miles through a rolling country in the lower valley of the Limpio, the average depth of the cutting for this distance being 16 feet above the bottom of the canal.

Passing into the basin of the Caño San Francisco it follows the valleys of the Limpio and Chanchos to near the confluence of the latter with the San Francisco, and then up the valley of the last-named stream, skirting the hills on the west to a favorable pass in the hill range separating this valley from the swampy region called Florida Lake, extending towards Ochoa. The line of location follows this swamp to its western extremity, where it strikes the high rolling country intervening between this low region and the valley of the Machado, and following a tributary of the latter, it enters the River San Juan, 1,600 feet above the mouth of the Machado. The distance from the western end of the divide cut to the bank of the River San Juan is 12,500 miles, of which 7.481 miles are tangents and 5,019 miles comprised in eleven curves of from 4,000 to 11,459 feet radius. The hills surrounding the basin on the south do not form an unbroken range rising at all points above the level of the water, which, in this section also, is maintained at 106 feet above sea level. Eight gaps will have to be closed by embankments aggregating in length to 2,440 feet, measured on the valley floor, and 12,260 feet on the crest, the maximum depth being 60 feet below the level of the water in the basins.

In addition to the above, 59 smaller embankments, aggregating in length 18,280 feet on the crest, rising 6 feet above water level and varying in height from 1 to 50 feet, will be required from Ochoa to the main ridge of the divide. All embankments resting on the valley or swamp level are designed of rock fill and earth-backing,

with three parallel rows of sheet piling between abutments.

The total length of basin secured by this plan is 11.267 miles from flowage line to flowage line, of which 8.697 miles are in water varying from 30 to 60 feet in depth. That is, of the 12.500 miles in the division, but 1.233 miles will be wholly, and 2.570 miles partly, in excavation. This is not, however, the only advantage gained by the creation of this basin. Without it the cut across the divide would be of such proportions as to make the route commercially impracticable, and the basin of the Deseado an impossibility. Not less important are the additional considerations of free navigation through a wide and deep basin, instead of a restricted excavated channel. In the former, vessels can travel at full speed, lie at anchor, or pass each other at all points, while in the latter, the position and speed of all ships must conform to rigid regulations.

Attention is also invited to another striking feature of this work, as compared with

that close to the bank of the San Juan.

In a country subject to observed rainfalls of more than 6 inches in twenty-four hours, the problem of drainage involves a contest with forces of nature whose enormous destructive powers are a constant menace to engineering works, however careful and skillful their design and execution. And it is of the utmost importance, therefore, to reduce these forces to a minimum before the construction of works to withstand them.

The large territory embraced between the ridge confining the basin to the south and the "lower route," which term is used to designate the canal line formerly proposed, and which lies on the right bank of the San Juan River to Greytown, is, by the adoption of the "upper route," or that over which the canal is being built, entirely eliminated from the problem of drainage, leaving only that portion of the watershed north of the ridge, from the divide to the valley of the Machado, to be

provided for. The area of this catchment basin is about 65 square miles.

It is proposed to build all embankments across the valleys in the disconnected portions of the ridge, of rock fill and earth backing, the crest to be 107 feet above sea level, and with the top and outer slope so shaped and paved with large stones as to admit the free flow of water over the surface without danger of injury, all other embankments to be 112 feet above sea level. All these embankments will be, in fact, so many waste weirs for the discharge of the surplus water at several points in the basin, with an aggregate length of 4,720 feet of spillway, and assuming that the embankments are perfectly tight, which will not be the case until several years after construction, and, therefore, that all the surplus water passes over the weirs, the maximum depth on the crest will not exceed 15 inches.

An extraordinary freshet in the San Juan above the dam would probably send some of the river water towards the basin, but it will be observed that the weirs in the basin alone are capable of discharging 90,200 cubic feet per second before the water reaches the top of the high embankments, and that, in such extreme cases, the basin would also be discharging through the divide cut, over the Deseado Dam and weirs, and, if need be, through the culverts of lock No. 3. As an additional precaution a guard gate is provided in the first cut east of the Machado, by which the waters of the river San Juan may be shut off from the basin. With these ample provisions the destruction of the smaller earth embankments by an overflow of the basin

seems to be well guarded against.

Lake and River Division, 121.04 Miles.

(From Ochoa to Western Coast of Lake Nicaragua

This division extends from the western extremity of the Sau Francisco Division in the valley of the Machado to the entrance of the canal on the west shore of Lake Nicaragua. The total distance is 121.04 miles, divided as follows: navigation by the river San Juan, 64.54 miles; Lake Nicaragua, 56.5 miles. The section of the river from Ochoa to the Lake is to be made navigable by the construction of a dam at Ochoa, just below the Machado, maintaining the water at the summit level of 106 fact above sea level. It may be here explained that this elevation, hitherto treated as the summit level, is 4 feet below the lake, a fall of three-quarters of an inch to the mile being allowed for the slope necessary to discharge its waters, although for all the purposes of navigation that portion of the river is converted into an extension of the lake.

The dam is located between two steep hills, and its length of weir on the crest will be 1,250 feet, and abutments 650 feet. The average depth of the water in the river was, at the time of the survey, 8 feet, and the maximum depth, close to the southern abutment, 14 feet, the width between the banks being 950 feet. With a mean flow in the river of 20,000 cubic feet per second, the depth of water on the top of the weir

will be about 34 feet.

The dam is proposed to be built of rock fill and earth backing, in all respects similar to all the other large embankments and weirs already described. Its average height above the river bottom is 61 feet, its thickness at the top, 25 feet, and at the bottom, 500 feet. The core of the rock portion will be made of smaller stones, gravel, and refuse from the rock cuts, with three rows of sheet piling from abutment to abutment, and substantial concrete core walls from the ends of the sheet piling carried well into the abutment hills and up along the slope beyond the maximum flood level. The upper portion and long flat apron will be composed of stones of the largest dimensions that can be handled and arranged, the interstices being filled from behind with small stones, gravel, and earth dumped from suitable trestles.

By this dam, slack-water navigation in the River San Juan will be obtained in the whole distance from the Lake, in which, with the exception of the 28 miles above Toro Rapids, the navigable channel will be at no point less than 1,000 feet wide, with depths varying from 28 to 130 feet. Between the Lake and Toro Rapids rook blasting under water and dredging to an average depth of 4½ feet will be required at several places, amounting in all to 24 miles, most of the rock blasting occurring at Toro. The average depth of water, as raised by the dam, over the shallow places where deepening has been estimated for, is 23 feet, and the excavated channel is 125

feet at the bottom, the slopes varying with the character of the material.

A further important effect of the dam will be to raise the water from the River San Carlos to the level attained by the San Juan at their confinence above Ochoa, converting the valley of that stream into a spacious lake or port; and an integral part of the summit level and of the canal itself. Thousands of square miles of the territory of Costa Rica, now inaccessible by land or water, will thus become the richest portion of that Republic; and the sediment now being brought down by the rapid current of the river will then be deposited, for want of transporting power, at the mouths of the ravines and mountain torrents emptying into the basin. In fact, the area now scoured will be so much reduced that comparatively little material will be transported.

The confining ridge to the east of the valley of the San Carlos is a generally high range, extending in a nearly straight line from the south abutment of the Ochoa Dam, about S. 15° W. 7½ miles, to the foot of the high mountains of the interior. The length of the ridge, following its crooked crest-line, is about 10 miles. The hills forming the ridge do not form an unbroken range at all points higher than the level of the water, which is here also maintained at 106 feet above sea level. A number of short depressions will have to be closed by embankments, the tops of which will be

at an elevation of 112 feet.

The total number of embankments necessary is twenty-one. Of these eight will be very small, the ridge being now above the water line but below 112 feet. Only two will reach the floor of the valley, having a depth of 48 feet. The remaining eleven have an average depth of 19 feet. The aggregate length of embankments on crest is 5,440 feet; on floor of valley 130 feet.

The embankments proposed will be entirely of clay, 15 feet wide on top, with

slope of three to one on both sides.

It is proposed to build a large waste weir in the ridge about 23 miles from the Ochoa Dam. This weir having its crest of 106 feet elevation, will discharge the flood waters of the San Carlos into the San Juan independently of and below the dam.

The valley of Cureño Creek runs directly from the site of the proposed weir to the San Juan, 5; miles below Ochoa, hence no channel for the discharged waters need be provided.

In the east side of Lake Nicaragua, dredging in soft mud will be needed for a distance of about 14 miles to reach the depth of 30 feet, the average depth of the cut being 9.8 feet, and the proposed channel 150 feet wide at the bottom, with side slopes

of three to one to the present bottom of the Lake.

From the end of this cut to within 1,400 feet of the west coast, at the entrance of the canal, the depth in the Lake varies from 30 to 150 feet. The excavation on the west side is estimated as rock. No borings were taken on this side of the Lake, but the indications on the shore and the result of the borings in the vicinity point to rock

as predominating in the subaqueous excavation.

In view of the nature of the bottom and the prevailing winds on that coast of the Lake, it is deemed advisable, if not essential, to estimate for two crib piers or breakwaters at the entrance of the canal and extending into deep water a distance of 1,800 feet and 2,400 feet respectively. These piers will have the effect of arresting débris drifting along the coast by the action of the waves, insure smooth water at the entrance of the canal, and serve as guides to approaching vessels.

Western Division.

[From the Lake to Brito, 17.04 miles.]

This section of canal connects the Lake with the Pacific Ocean. It is 17.04 miles long from the shore of the Lake when at 102.5 feet above the sea level, the elevation at the time the surveys were made, to the port at Brito.

As the canal is now estimated for 11.44 miles of that distance will be wholly in excavation and 5.60 miles through a basin in the valleys of the rivers Grande and Tola.

In this basin from 30 to 70 feet of water can be had for a distance of 4.568 miles. The basin has an area of 4,000 acres, an extreme width of 12,500 feet, and an average of 5,500 feet. An alternative route has been located through the valleys proposed to be flooded for a canal in excavation should it be found more economical on account of the value of the land through which it passes. The only new feature of this divi-

sion is the basin now introduced.

The first section begins at the mouth of the river Lajas, on the west shore of Lake Nicaragua, and follows the valley of that stream for a distance of 8,260 feet, in which the width of the canal is 120 feet at the bottom, and the side slopes one and one-half to one, both in rock and earth. The river Lajas here turns to the south, and it is proposed to divert it and make it discharge into the lake a short distance south of its present mouth. The canal continues on the same straight line, crosses a plain about three-quarters of a mile wide, and enters the valley of the Guiscoyal, a small tributary of the Lajas, and at 4.70 miles from the lake it crosses the highest elevation on the line between the lake and the Pacific. This point is 42 feet above high lake, or 152 feet above mean tide in the Pacific, and is situated in a valley about 2 miles wide, deserving special notice by reason of the fact that it is the lowest depression of the main ridge between the Atlantic and Pacific Oceans on the American continent.

After crossing this divide the line gradually descends at the rate of about 9 feet per mile, and in 12 miles farther it meets the Rio Grande, a mountain stream which drains an extensive area of the western slope of the Cordillera. The line of the canal follows the tortuous channel of the Grande, cutting across some of its sharp bends, or occupying a channel in short reaches. In $1\frac{1}{2}$ miles it frees itself from this contracted valley and cuts across a broad plain as it turns to the westward, and enters the basin of the Tola, 9 miles from the lake. The distance across the basin by the sailing line is 5.504 miles. This basin is formed by the construction of an embankment 1,800 feet long and 70 feet high, resting on two high hills at a place called La Flor. The method of construction of this embankment is in all respects similar to that adopted for the construction of the Ochoa Dam and embankments in the San Francisco Valley. The rock for the fill will be obtained from the excavations for Locks Nos. 4 and 5 in the north abutment, and the earth from the canal excavation east of the basin. The level of the lake will be extended through the divide cut and the basin to this dam, the top of which is established at 112 feet above sea level. Therefore, the lake will have to rise more than 2 feet above the proposed summit level before any water runs over the weir. With a length of weir of 1,300 feet and the lock culverts capable of discharging not less than 4,500 cubic feet per second, the level of the lake can be kept under control, even during extraordinary floods. Yet a guard gate is proposed in the section of caual between the lake and the "Divide" to shut off the water from the lake in case of necessity. No special provision has been made for the control of the rivers Grande and Tola, and none is deemed necessary. These streams will flow into the summit level, one between the lake and the Tola basin, and the other at the northern extremity of the basin. The waters will be distributed between the basin and the lake, or partly used for feeding the locks, and should both rivers be in flood while the water in the basin is below the crest of the weir,

and therefore, most of the combined flow discharging into the lake, the current in the canal through its narrowest portion in the "Divide," will not exceed 2 miles an hour, which can do no harm to the rock cut, while in the larger portions of the canal the velocity would, of course, be proportionately less.

From the western end of the valley of Tola to Brito, the canal, after leaving Locks Nos. 4 and 5, cuts across a broad, flat country, with an inclination of about 9 feet per mile, to the port, a distance of 2.28 miles, in which the excavation does not exceed

that required for the canal prism.

Three locks are proposed to overcome the difference of level between the summit and the Pacific. Locks Nos. 4 and 5 are located in the hill north of La Flor Dam; their chambers are 650 feet long and 70 feet wide, and the lifts 42f feet in each. Lock No. 6, of the same dimensions of chamber, is situated 1.58 miles below, its lifts being 21 and 29 feet, respectively, at high and low tide. Between this lock and the port of Brito, a distance of 0.57 miles, the canal will be at the level of the sea, with an enlarged section, and may be regarded as an extension of the harbor, similar to that at the Greytown end of the route.

HARBOR OF GREYTOWN.

Thirty years ago this harbor had a comparatively narrow but safe entrance from the sea, with a deep and commodious inner bay, where the largest class of sea-going vessels could lie with perfect safety. To-day this bay is converted into a fresh-water lagoon, separated from the sea by a continuous sand strip, stretching across the old This sand bank is the work of the waves, which, striking the sandy coast entrance. at an angle varying with the direction of the wind, but always inside of the first quarter, drives the sand from east to west, to be deposited at the extreme western end of the hook, or east side of the entrance. This continuous operation caused the hook to advance until it struck the main coast on the west, thus completely inclosing the bay.

The plan for the restoration of the harbor is based on data gathered through many years of investigations, in which the nature and magnitude of the forces operating on the coast were carefully defined and considered. It became then an easy matter to create the means of opposing these forces, and the following plan has been adopted,

and is now in process of execution.

It consists in the construction of a jetty, or breakwater, about 2,000 feet long, nearly normal to the shore of the sand strip separating the bay from the sea, and extending to the 6-fathom curve; then dredging from this latter depth offshore across

the sand bank and in the inner bay.

The jetty is located to the windward of the proposed entrance channel, which it is intended to shelter from the sea and protect from the wash of the waves and the traveling sand of the coast. The shifting sand arrested by the pier will accumulate in the angle formed by the pier and coast until the deposit reaches the end of the breakwater, when there will be a tendency to shoal around the outer end and across the entrance. This can be again prevented by an extension of the pier, and the same process continued from time to time until the new coast line thus formed is perpendicular to the prevailing direction of the wind, when the shifting action of sea will be permanently arrested and the work of the waves will be confined to

piling the sand on the beach.

The first section of the jetty extending from the shore to 15 feet of the water, is proposed to be built of creosoted timber, fascinage, and stone, and that portion in deep water to be of "pierre perdue" or rubble, the stone to be obtained from the "Divide Cut." The entrance channel is estimated to have a depth of 30 feet and a width of 500 feet at the bottom, and the inner basin is designed of sufficient dimensions to afford easy access to the canal and to accommodate a large number of vessels, its excavated area on the bottom being 206 acres, which, with the area of the enlarged section of the canal at sea level to Lock No. 1, gives a total area of 341 acres of water 28 feet deep, exclusive of slopes of three to one and the remaining portions of the inner bay not deepened, yet having in many places a depth of 20 feet, in which a large number of vessels of ordinary size can lie.

The first 700 feet of the pier have already been successfully built, and the results so far obtained fully confirm the expectations to be realized by the execution of the

plan.

BRITO.

The recent surveys have greatly added to previous information as to the natural conditions of this locality, which, by reason of its being of necessity the terminus of the canal on the Pacific coast, has been spoken of as "the harbor," when, as remarked by Professor Mitchell, it is not even a roadstead. Yet the practicability of constructing a harbor at this point has not been disputed, the only difference of opinion being confined to details. The plan now proposed combines, as nearly as possible, the most economical form of construction with that best adapted to the physical conditions, and meets, it is believed, most effectually the objections raised

against former designs.

The broad valley of the Rio Grande stretches to the coast at this point through a wide gap in the main range of hills extending along the Pacific coast. This valley, it is believed, formed once a considerable bay, but is now filled up for a distance of about 6,000 feet from the beach to about the level of high water. The proposed plan for the construction of the harbor consists, (1) in a breakwater 900 feet long, extending from a rocky promontory projecting from the beach at the western extremity of the range of hills, and, (2) another jetty, 830 feet long, normal to the beach nearly opposite the extremity of the one before mentioned. The proposed harbor will be partly in deep water confined by the jetties, but its main portion is proposed to be excavated in the alluvial valley, the whole forming a deep and broad leads to propose the proposed to be excavated in the alluvial valley, the whole forming a deep and broad leads to propose the proposed to be excavated in the alluvial valley, the whole forming a deep and broad basin penetrating 3,000 feet from the present shore line at high water and 3,900 feet from the entrance between the jetties. As an entension of the harbor, the canal itself is excavated at sea level with an enlarged prism for a distance of 3,000 feet farther inland where the tide lock has been located. It is believed that, with the basin as designed and the prolongation of the sea level through the canal, sufficient tranquility will be secured at the lock and in the harbor, but should this prove not to be the case, an enlargement of the main basin by dredging in soft material would be a question of but comparatively small expense.

The breakwaters, as estimated for, are of "pierre perdue," the material to be obtained from the rocky promontory or from the western "Divide Cut," the price allowed being on the latter basis. The harbor has an area of 95\frac{1}{4} acres on the bottom or excavated portion, and with the sea level section of the canal the total area is 103\frac{1}{4}

acres of water, 30 feet deep, exclusive of the slopes of three to one.

MATERIALS FOR CONSTRUCTION.

The whole line of the canal is well supplied with timber, generally of excellent quality, though in some sections of the eastern division it has been deemed advisable to estimate for its use only on temporary works during construction, such as trestles, laborers' dwellings, etc., the sheet piling and most of the bearing piles being imported from the Southern States and crossoted when necessary. On the western division, however, the wood growing on ground less moist is of a very superior quality, and it is proposed to use it for all purposes, its durability having been amply proved in every class of construction throughout the country.

The rock proposed to be used for the dams, weirs, and breakwaters will be got

from the divide cuts, which consist chiefly of basalt and various descriptions of trap

of excellent quality for the purpose.

Lime of the best quality is obtainable in the western division at many places, and the numerous specimens of work on which it has been used have stood the test of many generations and are to-day in a state of perfect preservation, but it is calculated to supplement this supply with imported cement, which will be used largely in the form of concrete in the construction of locks, etc., clean sharp sand being found in abundance in the beds of most of the streams in the vicinity of the canal.

DIMENSIONS AND CAPACITY OF THE CANAL.

In establishing the dimensions of the canal it has been my purpose to profit by the experience at Suez, where a yearly traffic of 6,000,000 tons could not be carried through without serious delays to navigation. The reduction in the length of excavated canal accomplished by the last location in Nicaragua, through the substitution of free navigation in deep and broad basins for a restricted channel, gives additional facilities for the construction of a waterway capable of accommodating not less than 12,000 vessels, with a net tonnage of 20,000,000 a year, at but a small increased cost as compared with the advantages secured, both for the commerce of the world and the economical administration of the enterprise. In fact, the immediate and prospective benefits obtained by the enlargement, in the increased facilities for passing vessels, and a considerable decrease in the cost of maintenance and preservation of the work, fully justify, it is believed, the additional expense in the original cost. It will be seen on examination of the subjoined table that, of the 169.448 miles, the total length of the canal from the Atlantic to the Pacific, 121.04 miles is unimpeded navigation in the river San Juan and in Lake Nicaragua, and 21.619 miles through basins, making a total distance of 142.659 miles in which ships can travel with little or no restriction as to speed. Of the remaining 26.789 miles, 0.759 is taken up by the six locks, leaving but 26.030 miles of canal actually in excavation. Of this latter distance 18.189 miles are of canal large enough for vessels traveling in opposite directions to pass each other, the sectional area being in excess of the largest area of the Suez Canal. The two sections of canal with contracted prisms are in the eastern and western divide cuts; the first is 2.917 miles and the other 4.924 miles in length, and located as they are almost at the extreme ends of the summit level and in close proximity to the upper locks, it is believed that the slight additional facilities to navigation secured by enlarging the dimensions of the canal in these heavy rock cuts and the inconsiderable gain in the time of transit would not compensate for the larger outlay necessary.

Table showing the dimensions of the several sections of the proposed canal.

Gusto of con-1	7 11	Wi	dth.	Mean	Area of prism.	
Section of canal.	Length.	Top.	Bottom.	depth.		
	Milea.	Feet.	Feet.	Feet.	Sq. feet.	
Grevtown to Lock No. 1	9, 297	288	120	28	5, 71	
Lock No. 1 to Lock No. 2, canal	1, 258	210	120	30	4, 95	
Lock No. 2 to Lock No. 3, canal.	1, 650	210	120	30	4, 95	
ock No. 2 to Lock No. 3, basin	1,762			30		
Lock No. 3 to western end of eastern divide cut, canal	2. 917	80	80	30	2, 40	
seado Basin	3, 086			45		
Western end of divide out to Ochoa, canal	1. 233	184	80	20	3, 67	
Basin	11, 267			40		
River San Juan to Toro Rapids	37,040			52		
River San Juan, where dredging is needed	27, 500		125	28		
ake Nicaragua.	56, 500		150	50		
ake to western divide cut, canal	1, 565	210	120	30	4, 95	
Western divide cut, canal	4. 924	80	80	30	2, 40	
Divide cut to east end of Tola Basin, canal	2.519	184	80	30	3, 67	
East end of Tola Basin to Lock No. 4, basin	5, 504			50		
ock No, 5 to Lock No. 6, canal	1.582	184	80	35	3, 67	
ock No. 6 to harbor of Brito, canal	. 570	288	120	28	5, G1	

RECAPITULATION.	Miles.
Canal excavation, east side	14. 870 11. 160
Canal in excavation	
Deseado Basins	11. 267
Length of basins	
River San Juan. Lake Nicaragua	
Natural waterways From Atlantic to Pacific (length of canal)	

In the lake and in the greater part of the River San Juan vessels can travel with unrestricted speed, and in some sections of the river and in the basins, although the channel is at almost all points deep and of considerable width, yet the speed will be somewhat checked by reason of the curves.

Official reports show that, in the Suez Canal, steamers of 4,400 tons can travel at an average speed of 6 statute miles per hour, and that smaller vessels travel through the canal at the rate of from 6 to 8 miles an hour. On this basis the following estimate of the time of transit has been prepared:

Estimated time of through transit by steamer.

	л.	at.
26.030 miles of canal, at 5 miles an hour	5	12
21.619 miles in the basins, at 7 miles an hour	3	05
64.540 miles in River San Juan, at 8 miles an hour		
56.500 miles in Lake Nicaragua, at 10 miles an hour		
6 lockages, at 45 minutes each		
Allow for detentions in narrow cuts	1	30

The traffic of the canal will be limited by the time required for a vessel to pass a lock and on a basis of 45 minutes and that but one vessel will pass in each lockage, the number of vessels that can pass through the canal in one day will be 32, or in one year 11,680, which, at the average tonnage of vessels going through the Suez Canal, will give 20,440,000 tons per year. This estimate is on the assumption that the traffic will not be stopped during the night, for, with abundant water power at the locks and at the basins the whole canal can be economically illuminated by electricity, and, with beacons and range lights in the lake and river, there seems to be no good reason why vessels should not travel day and night with perfect safety, and the outlay necessary for the illumination has consequently been included in the estimate.

WATER SUPPLY.

Lake Nicaragua has a surface area of about 2,600 square miles and a watershed of not less than 8,000 square miles. Gauges at its outlet, the River San Juan, at its lowest stage between the Lake and Toro Rapids, showed a minimum flow of 11,390 cubic feet per second. Colonel Childs estimated the discharge with full lake in the wet season at 18,059 cubic feet per second, which gives a mean flow of 14,724 cubic feet per second, or 1,272,530,600 cubic feet per day.

Water required for lockage.

	Cubic feet.
Water required for one lockage:	0.04% 500
On the east side	2, 047, 500 1, 933, 750
On both sides.	
Water required for thirty-two lockages per day	

This gives a daily excess for the lake supply only of 1,144,753,600 cubic feet.

To the latter amount must be added the flow of the several tributaries of the San Juan River between the lake and the Ochoa Dam, and also the tributaries of the basins forming part of the summit level, which would fully compensate for leakage and evaporation.

It is expected that considerable leakage will take place at the rock-fill dams and embankments before they consolidate and become tight, but this may well be accepted as a desirable condition to aid in gradually disposing of the surplus water without a

large discharge over the weirs.

The above statement shows that the lake discharge is about ten times larger than the maximum amount needed for the canal, and it may be safely estimated that for many years after the canal is opened for traffic, the surplus, from that source alone, will be double that amount, while at the confluence of the rivers San Juan and San Carlos, above the Ochoa Dam, the excess may even reach forty times the quantity needed for the canal. It is evident, therefore, that as long as the summit level can be maintained at the required elevation, the leakage through the rock-fills, acting as safety valves, may be regarded as an element of security rather than one of danger, especially as the tightening of the dam may be regulated by depositing suitable material on the upstream side, or by dumping more stone on the lower slopes or on the crest, so as to preserve the desired elevation of the surface of the water.

A detailed estimate of the cost of the canal is foreign to the nature of this paper, but it may be proper to state that the probable total cost has been arrived at through careful computations based upon the data obtained by the last location and numerous

boring along the whole route.

The eastern divide cut, less than 3 miles in length, is represented in the estimate with 7,000,230 cubic yards of rock in place, and 22 per cent. of the cost of the whole canal. Reference has already been made, in describing the Eastern Division, to the existing facilities for doing the work and the several purposes to which the material to be removed can be economically applied in the construction of the canal. In the Western Division the excavation in rock through the divide cut is estimated at 5,696,507 cubic yards, distributed over a distance of 9 miles, in which the deepest portion of the excavation is but 42 feet above the surface of the water. There are ample facilities for the deposit of the waste material not needed for the construction of the breakwaters, the locks, the embankments, the dam, etc.

Of the 26.789 miles of canal in excavation, more than 12 miles will be done by dredging at the level of the sea, the material to be deposited directly on both sides

of the canal prism.

A railroad has been estimated for between Greytown barbor and the river San Juan

A railroad has been estimated for between Division between the lake and the Pacific, above the Ochoa Dam, and on the Western Division between the lake and the Pacific, which, together with the lake and river and the smaller streams penetrating the valleys of the Deseado and San Francisco, will afford easy and economical communication along the whole route.

It is admitted that the cost of this work will be greater than that of similar work

located in a well-developed country. A large percentage of the increased cost is chargeable to the transportation of machine tools, and to the difficulty of obtaining and providing for the workmen, the country from Greytown to the lake being uninhabited and covered with a dense forest, and intercepted by extensive swamps and ridges of steep hills; and that between the lake and the Pacific but sparsely populated. The erection of houses for the protection of property and the accommodation of employés will also be a necessary item of considerable expense, but the country is exceptionally healthy, and these structures need not be either substantial in character or expensive. They need be, as a rule, but temporary sheds built with material gathered along the line of the canal, at but little more cost than the labor of handling it. Yet much delay and expense will be found unavoidable in the pre-

liminary preparations for commencing the work of excavation.

Another contingency which may cause a marked increase in the cost of the work is the physical inability of the imported workmen to perform the ordinary labor, as compared with that accomplished in a more temperate climate. The laboring classes of Nicaragua, when under proper control, are capable of an activity and endurance under great fatigue and exposure to the elements scarcely equalled in any other country, and with no apparent injury to health; yet the same capabilities can not be expected in unacclimated foreigners accustomed to different conditions of life. It is believed that not less than 6,000 excellent laborers can be obtained from the Central American States, and that with a judicious management all the help needed can be had from the Gulf States in this country where the climatic conditions are in many respects similar to those prevailing over a large portion of the canal route. The number of skilled laborers employed will be comparatively small. On the west side of the lake, where the greater number of laborers will be employed, the climate is not excelled for salubrity by any other portion of Central America, and in that portion of the eastern section from Ochoa to Greytown, which is the only locality where trouble from climatic causes might be expected, the unexceptional good health enjoyed by the employes of the company during more than two years of constant exposure to the influence of the climate, while undergoing all kinds of hardships and privations, seems to be an evident demonstration that no apprehension need be entertained as to the climate. It will be observed that in this section the work is divided into two large classes, viz: the divide cut and dredging. The first is located in the most elevated and healthy portion of the line, and in the second the number of employés is reduced to a minimum, as manual labor is almost entirely excluded. The small force necessary to handle and care for the machinery will be either housed on the dredges or in quarters in the divide where, with the purest of waters from the mountain streams and the cool trades constantly sweeping in from the sea, the slightest sanitary regulations will insure perfect health at all times.

It is believed that with an intelligent and businesslike management the canal can be completed in six years for the work of actual construction, and one year in making the necessary preparations to commence active operations, and that the total cost will not exceed \$90,000,000, exclusive of banking commissions, interest during

construction, and other expenses not included in the engineer's estimate.

WORK ACCOMPLISHED.

The first expedition for construction left New York on the 25th of May, 1889, and on the 3d of June landed at the proposed entrance to the canal, near Greytown, on a sandy, uninhabited coast, without harbor or shelter from the elements, with no means of communication along the line of the canal except through tortuous and much-obstructed streams, some of which could not float a loaded canoe, and depending altogether on a base of supplies for construction materials and subsistence 2,000 miles distant, with only one line of steamers touching on that coast, and two weeks distant from the nearest telegraph station. The first work of the pioneers of the great enterprise was, necessarily, one of self preservation. Rude temporary shelters had to be improvised for the protection of men and stores, while more permanent buildings could be erected; means of transportation along the route of the canal through deep and extensive swamps and virgin forests had to be provided for, and telegraphic communication to the nearest station (more than 100 miles from the coast) and connecting the various camps about to be established with the base of operations, was felt from the start to be a necessary adjunct to prosecuting the work. Under these conditions, aggravated by an insufficient supply of an inferior class of labor, the first operations were difficult, tedious, and expensive, and it was not until the month of October following that the preliminary organization of the various departments had been completed, and the ordinary work of construction could be said to have commenced.

The opening of an entrance into what used to be the Bay of Greytown, was recognized from the start to be an indispensable requisite in the prosecution of the work. Ships now anchor about 2 miles off shore, and machinery and other supplies are

brought ashore in lighters, through a shifting entrance and dangerous bar, with a variable depth, never exceeding 6 feet. This method of landing supplies involves considerable risk and expense, and is altogether inadequate for the discharge of the heavy machinery. The company, therefore, has spared no effort in obtaining an entrance from the sea into the bay, and the construction of the breakwater was one of the first works undertaken by the company, and pushed ahead with all possible dispatch. This pier is now about 700 feet long, its outer end being in 12 feet of water, and so far has fulfilled, even beyond expectations, all that was expected to be accomplished by it. It affords already sufficient protection to the dredges excavating the channel, and the company has already made a contract for the dredging of the entrance and inner bay to a depth of 20 feet. Some of the dredges are now in Nicaragua and others are in process of construction and will leave soon for Greytown. It is expected, therefore, that within the next five months vessels drawing 15 or 20 feet may be able to enter the bay and discharge their freight directly on the wharves of the company.

Heavy machinery suitable for the work can then be safely landed, the work of preparation may be said to have been completed, and active operations can be under-

taken along the whole route.

While prosecuting the harbor work the company has also established permanent quarters, erected large storehouses, hospitals, dwellings, shops, and other buildings. It has accumulated the necessary material for the construction of an aqueduct 13 miles in length (work on which is now actively pushed), which is to supply Greytown, the works on the eastern section of the canal, the harbor, and the company's headquarters, with fresh water from the mountains. It has erected wharves and warehouses for the receipt and storage of supplies. Parts of the San Juanillo, Deseado, San Francisco, and other streams, have been cleared of obstructions and made navigable for small craft, and several miles of the route of the canal, between the harbor and the Eastern Divide, have been grubbed and cleared and made ready for dredging. The company has built about 10 miles of broad gauge railroad and about 70 miles of telegraph and telephone lines, and has landed at Greytown large quantities of machinery, tools, lumber, piles, creosoted timber, boats, steam tugs and launches, lighters, pile drivers, and other materials and equipment necessary for the harbor and canal work. Large quantities of railroad supplies, locomotives, steam excavators, are now at Greytown, and a contract has been let for the construction of 17 miles of railroad from Greytown to the Eastern Divide cut, work on which has already commenced, and, in short, it may be safely said that the whole work is being pushed forward as rapidly as the circumstances and condition of the country permit.

A. G. MENOCAL, Chief Engineer.

APPENDIX B.

SPECIAL REPORT ON DATA RELATING TO THE MARITIME CANAL OF NICARAGUA AND THE REGIONS TRIBUTARY THERETO.

[By CHARLES T. HARVEY, Civil Engineer.]

THE MARITIME CANAL COMPANY OF NICARAGUA,
Secretary's Office, 44 Wall Street, December 30, 1889.
The undersigned has been instructed to cause the following correspondence and report to be printed for the general information of the friends and stockholders of the above-named enterprise.

Special attention is called to the fact that the locks of the Lake Superior Ship Canal (of which the dimensions most nearly coincide with those proposed for the Nicaragua Caual,) have been in constant use for one-third of a century without cessation for a single day from accidents or for repairs during seasons of navigation.

This precedent is deemed by the company a sufficient indication that like results are certain in this enterprise, where the latest-improved lock appliances and safe-guards will be provided from the outset, and where more favorable climatic condi-

The fact that the Lake Superior Canal was built within the estimates of both time and cost, under less favorable conditions in many respects than attach to the construction work of this company, will doubtless have weight in the minds of those who in such matters are influenced by precedents.

The statistics of the growth and relative economy of the water way traffic of the

section of this continent tributary to the Lake Superior Ship Lock Canal, are deemed

worthy of especial attention.

The conclusions set forth in Mr. Harvey's report, illustrated by the accompanying maps, relating to the territory on this continent, from which commerce will seek the Nicaragua Canal as the most economical route, suggest new commercial conditions and results, deemed especially interesting to those having, or contemplating, investments in connection with this interoceanic and international water way.

THOMAS B. ATKINS, Secretary Maritime Canal Company of Nicaragua.

THE MARITIME CANAL COMPANY OF NICARAGUA,

President's Office, 44 Wall Street, New York, May 15, 1889.

Dear Sir: The fact that you occupied the positions of both business manager and constructing engineer of the greatest ship canal operated with locks at the time of its completion, and which has held the first place as to tonnage traffic up to the present time (outranking the Suez Tide-Level Canal in monthly volume of business during open season on the Western Lakes), and that you were honored with a vote of thanks by the Constructing Company for your ability displayed in prosecuting the canal work under your charge to completion, led the Nicaragua Canal Construction Company to select you as a member of the advisory board of engineers, which has lately concluded its revision of the estimates of Chief Engineer Menocal, as based upon the surveys made and data ascertained by the engineering corps under his directions.

Considering your former experience a valuable guide in such undertakings, and that your recent inspection of the maps, profiles, plans, and general data of this enterprise will enable you to state the main points connected with its feasibility and future traffic development in the light of established precedents coming under your personal observation, and in a manner which will no doubt prove worthy of special attention. I request you to favor me with your views and suggestions from the standpoint of a constructor of ship-lock caual work and manager of such water-way interests.

Yours, very respectfully,

HIRAM HITCHCOCK. President Maritime Canal Company.

CHAS. T. HARVEY, Esq., Civil Engineer, New York City.

NEW YORK CITY, May 20, 1889.

DEAR SIR: Your communication of the 15th instant has been received and duly considered. Prior engagements for the ensuing season will prevent my giving immediate attention to the subject to which you refer, but when otherwise disengaged I will endeavor to comply with your wishes.

I am at present planning to visit, during the coming summer, the ship canal at the outlet of Lake Superior, the subject of my former labors, and if that plan is realized, I will allot a portion of my time while there to formulating a statement of facts, past and present, connected with that water way, with a view to its bearing upon the results to be anticipated at the completion of the Nicaragua Ship Canal.

The extended examination of the construction data of the noble enterprise which you represent, made by me early in the present year, has led to the formation of opinions which, with due allowance for time necessarily occupied by other and prior professional engagements, can be placed at your service after my return to the city. Meanwhile you may not hear from me again until I reach the outlet of that matchless inland sea and the adjacent region where I was a pioneer in promoting the development of its then latent, but now famous, commercial resources.

I remain, very respectfully, yours,

CHARLES T. HARVEY.

HIRAM HITCHCOCK, Esq., President Maritime Canal Company,

> INTERNATIONAL HOTEL, Sault Ste. Marie, Ont., August 20, 1889.

DEAR SIR: Referring to my letter to you of May 20, 1889, I have now to say that circumstances have favored the plan I then entertained of revisiting this locality.

If any persons have the impression that ship canals have been superseded in commercial importance by the march of modern improvements in other forms of transit, a visit of inspection to this point (where is located the greatest development of lock canals to be found in the world) will quickly dispel such an illusion. From the windows of the hotel where these lines are written my eyes can rest upon enlargements of canal capacity, now being prosecuted upon both banks of the Falls of the St. Mary's River, the outlet of this greatest of inland seas, by two of the most enterprising nations of the world. The workmen employed in these respective operations are under separate nationalities, although less than one mile apart. And yet, with only the present facilities, more tonnage is being locked through the operating canal on the southern side of the river in seven months (navigation in this region being closed by ice, on the average, from December 1 to May 1 in each year), than is expected to pass through the Suez Canal during the present calendar year. I have myself seen, during one morning of this week, 15 steamers (some of 3,000 tons burden), clustered together as passed, passing, or waiting to pass the locks; and within the space of one hour all had disappeared upon their respective voyages.

The annexed view is from a photograph recently taken of a fleet of steam and sail vessels (the latter mostly masted barges, regularly towed between ports by consort steamers) awaiting their turn to pass through the lock of the United States Ship

Canal at the entrance to Lake Superior.

Comparing this with the time when, in 1853, I wheeled out the first barrowload of excavation for the original ship canal at this point, the change seems almost incredible. Then a tram railway operated by a few horses sufficed to transfer around the falls all commodities to and from Lake Superior.

This, to my mind, is but an appropriate indication of the growth of the commerce which waits upon the opening of the Nicaragua interoceanic water way to crowd

its utmost capacity.

Thus far, by way of introduction, to a report [part first] upon the data respecting water-way developments in this region, the preparation of which I have already commenced.

Very respectfully, yours,

CHARLES T. HARVEY.

HIRAM HITCHCOCK, Esq., President Maritime Canal Company, 44 Wall St., New York City.

PART FIRST.

DATA RELATING TO THE SHIP-CANAL FACILITIES AND TRAFFIC OF THE LAKE SUPERIOR BASIN.

HISTORICAL.

In the last decade of the eighteenth century, a British fur-trading company constructed, on the Canadian side, a sluiceway for the passage of loaded bateaux around the Falls of the St. Mary's River, by a gradual incline to a lift-lock, about 40 x 9 feet in area, built of dressed timber, of which remains have recently been exhumed. Records are silent as to its further history, but it is believed to have been destroyed during the war of 1812-14, when a military force from the United States burn every building in that vicinity.

In 1852 the Congress of the United States passed a law donating to the State of Michigan 750,000 acres of public land within its borders, to aid in building a ship canal around the Falls, committing the entire control of the work to the State, stipulating, however, that the canal should not be less than 100 feet in width, and

12 feet deep, with locks not less than 250 feet long and 50 feet wide.

Being myself at the Falls when this law was enacted, my own conviction of the importance of the work led me to immediately devote my time and energies to its promotion. In the line of this effort I attended the next session of the State legislature, and was selected by the committee having the matter in charge to draught the State law to govern the presecution of the enterprise, and it was enacted substantially in the form in which I submitted it. Having made a tour of the lake region during the previous year, its latent resources so impressed me that, upon later attendance at the legislature, I strenuously advocated building the canal upon a still larger scale than the act of Congress called for, as sure to be needed in the coming Although the only person, so far as my memory recalls, who originally proposed an increase of the lock dimensions, my views were, after considerable hesitation, adopted by the legislators, and locks 350 feet long and 70 feet wide were (in

the law) made obligatory by the State as a condition in any contract for the work.

Afterward, submitting a bid in behalf of Eastern capitalists, the contract was awarded to them, and I was at once appointed State's agent by the governor to designate the lands to be received in payment from the United States. In consideration of such selections as made by myself in the Upper Peninsula, and later by a coland agent for the Lower Peninsula, my principals proposed to build the canal for the State, and upon the wise selection of the aforesaid lands their profits de-

My next step was to apply to the legislature of New York for a special charter for a construction company, which the constitution of the State of Michigan did not permit, but which its legislature could (and did) recognize when created by another State. Having obtained the charter at Albany, New York City was next visited, where cash subscriptions were secured for the authorized capital stock of \$1,000,000, and the same apportioned to capitalists, who constituted a remarkably influential

and financially able body of stockholders.

Upon the organization of the corporation as the St. Mary's Falls Ship Canal Company I was appointed its general agent, with full executive powers for prosecuting the work, and proceeding to Detroit organized the first detachment of the working force, numbering about 400 men, chartered a steamer, and landed them at the "Soo" (the name under which the Falls, in abbreviation of the French name given it by

the Jesuit pioneers of the seventeenth century, were known), June 2, 1853. On the 4th of the same month I formally broke ground, and the work commenced forthwith. My supervisory duties included, unexpectedly to me, that of chief engineer, with the sole responsibility of directing the work, in all respects, during the closed or winter seasons. The most remarkable operation occurring in the engineering department during that period was the devising and constructing of a machine, operated by steam, which could deliver a blow of 10,000 pounds force per square inch, by which submarine rock excavation was carried on in midwinter in 2 fathoms of water, including nearly a half-fathom of ice.

When the emergency requiring such force was discovered, I was obliged to dispatch couriers over the icy wastes of frozen rivers and lakes to the Canadian settlements along the north shore of Georgian Bay to collect numbers of blacksmiths' bellows sufficient to furnish the blast for forging the main parts of this novel ma-

It proved a great success, and by it thousands of yards in area of solid rock were excavated rapidly and economically. While it was operating at the lake entrance I had the honor of personally opening the cofferdam sluice gates, which let the waters of Lake Superior flow permanently into the finished prism and locks of the ship canal the 19th of April, 1855.

The time between the commencement and completion of the work was twenty-two and one-half months, whereas the contract period allowed was twenty-four months. The capital allotted for the work was \$1,000,000; but my account as construction agent was, in round numbers, less than \$875,000. Thus this canal was, both as to time

and cost, completed within the original estimates.

Probably no public work was ever constructed upon more honorable principles. In every case where, as engineer, I applied to the directors for permission to improve the work beyond the contract specifications, it was granted. The State engineer's plans were originally for lock-gates, worked with long beams, against which men were to brace their backs in opening or shutting. Before that detail was reached more excellent but costlier devices were substituted at the contractors' expense,

This canal had by far the largest locks then to be found in the world, and they have fulfilled their mission without defect or cessation for over a third of a century. Upon an examination made this week I could not find a single fissure in the lock walls or detect any deflection in them, nor in the miter sills or lock-chamber floors. That they would continue thus for ages, so far as the forces of nature are concerned, is unquestionable. The engineers of the United States Government have, however, now commenced operations to remove them, and to substitute a new lock of nearly quadruple capacity, as will be hereinafter noted.

In referring to them, General Poe, U. S. Army, in charge of the work, in his report of of December 29, 1886, uses the following language:

"They were magnificent constructions in their day, and would still be useful if the

commerce had not entirely outgrown them."

It may be of interest to you to be assured that if the construction of the canal, of which you have charge, was under its present conditions the subject of choice for personal management, as against the canal at this point, with the surroundings under which its construction was undertaken, I should recommend yours as involving the least risk and administrative energy, to secure its completion within your engineering estimates as to both time and cost.

To meet any incredulity as to such conclusions, in view of the far greater operations required at Nicaragua, some of the obstacles overcome will, by way of contrast,

be recalled.

This region was then more remote from the sources of labor supply and many

prime materials than is yours at this time.

Thus in 1853 every one of the many thousand kegs of powder used was transported here from the States of Connecticut or Delaware on the Atlantic coast. Agents were required, en route to and from New York City, to hire immigrants and bring them here in gangs, paying all their expenses, and also to circumvent the emissaries of the various railroads then building in Illinois and Wisconsin, who came here surreptitionsly to hire them to go elsewhere, as there was at that time a scarcity of labor throughout the West. The nearest machine shop was several hundred miles away, with no practical means of communication during five-twelfths of the The nearest telegraph station was at Detroit, 450 miles distant, and business letters in midwinter required six weeks to reach the Construction Company's New York office and return a reply.

On the other hand, all parts of your work will be in telegraphic communication with each other and with your New York office, while labor and supplies can be sent from the best markets directly and cheaply to your own landings and depots.

The conditions as to improvements in labor-saving machinery and explosives made

available within the intervening years are almost incomparably in your favor. In this case drilling was done mainly by hand-100 men then not equalling the work of ten men with present improved machinery. Then the only way to hasten the work was to increase the number of hands, and consequently at one time 2,000 men could here be seen at work within the space of 1 mile. The climate and sanitary conditions of your line of work must be considered as exceptionably favorable, in view of the equable mildness of the climate and for other reasons hereinafter stated under the caption of "climatic conditions," etc.

At this locality, during the severity of winter, 35 degrees below zero is frequently registered in the mornings of the short days, with only eight hours of sunlight

During the hours of such extremely low temperature one man was detailed to stand at the head of each of the runways for barrows, with orders when he saw a face frostbitten to rub it with snow until circulation was restored without the barrow-man leaving the work. Epidemic cholera broke out during the second summer and carried

to their graves about one-tenth of the working force.

When these facts are borne in mind it will be seen that a choice of your undertaking as the least difficult will not seem unreasonable. Experts have declared that the record of building a work of the dimensions and importance of the Lake Superior Ship Canal in the face of the obstacles indicated, and yet within the estimates as to both time and cost, has never been surpassed. Be that as it may, it is a pleasant conclusion of this historical notice to be able to say that, viewed as a financial venture, the canal proved a great success for its contractors, as the following instance will illustrate: An English capitalist, residing or having business connections in the Madeira Islands at that time, visited the works with introductory letters to myself, and, after personal observation, instructed his agent in New York to invest \$100,000 in the Construction Company's stock. About twenty years later that agent's cashier informed me that he had remitted over \$500,000 in sterling exchange as the proceeds of the sale of a part of that investor's quota of the selected lands, with a balance yet to follow.

The locks and canal as originally constructed continued uninterruptedly in use until the close of the season of 1886. Meanwhile the commerce of Lake Superior, in consequence of these canal facilities, increased so rapidly that the demand for enlargements was imperative-not alone from the State of Michigan, which controlled it, but also from such of the other States and the provinces of Canada as bordered upon its connecting lakes. Consequently the State of Michigan, on the 3d of March, 1881, passed an act transferring the canal to the United States Government, which by an act of Congress of the same year accepted it as a national canal the most important public work within its broad domain. On the 1st of September of the aforesaid year the supplementary lock (for which Congress had made due

appropriation) was added to the canal facilities.

Thus far in historical review.

It was my good fortune to meet here during the present month, General Casey, Chief of United States Engineers, having charge of all the national public works, also General Poe, U. S. Army, in charge of Government works in this district, together with Mr. E. S. Wheeler, civil engineer, United States, general superintendent of the canal.

By the courtesy of these distinguished officials, the opportunity was provided for an inspection by me of the governmental work of deepening the river about 20 miles

below the canal, at a point known as the Middle Neebish Channel.

CHANNEL IMPROVEMENTS IN THE ST. MARY'S RIVER.

General Superintendent Wheeler accompanied me on the United States steamer Despatch on the 12th instant and afforded me all possible information concerning the Neebish Channel rock-excavating operations. A channel is there being cut through solid sandstone rock, from 10 to 15 feet thick, 300 feet in width, for a distance of over

Dredges were made capable of forcing their way through the less solid upper strata of the rock, but the use of explosives in all the strata was found to be cheaper. chief interest centered upon a machine drill boat, having four steam drills working from one of its sides, boring 21-inch-diameter holes about 6 feet apart, and 12 to 15 feet deep, into which 30-inch-long dynamite canisters were placed and exploded by

electricity, without delaying the other drills at work alongside.

The perfection to which work of that kind has been brought is shown by the fact that the constructors now receive but \$1.80 per cubic yard for the rock excavation, measured in place, although required to deposit the débris in a way to construct a sea wall or mole some 6 feet above water, 50 feet from and parallel to the ship channel, as a safeguard against transverse currents acting upon passing vessels. Superintendent Wheeler informed me that the same work, if let ten or twelve years ago, would have cost at least \$4 per yard.

These and similar items of information have a direct bearing upon the plans and operations of your company, in prosecuting the deepening of the ship channel at its entrance into Lake Nicaragua and at various points along the San Juan River.

LOCK ENLARGEMENTS AND IMPROVEMENTS.

At the time of the completion of the original canal at this locality no vessels drawing over 8 feet of water could reach it from Lake Huron, owing to reefs and sand bars in the connecting river channels. Then the depth of 12 feet in the locks seemed Not long after this was assured, the National Government entered upon the work of deepening and straightening the lake water courses to a minimum of 12 feet. A decade later, the channel depth was generally increased to 16 feet, and the same is now being still further deepened to a minimum of 20 feet, under the supervision of

Army officers detailed to that duty at the various points of operation.

Coincident with the attainment of the general canal depth of 16 feet, it became necessary to provide similar depth in the canal and locks, and accordingly a supplementary lock was built by the side of the original ones, the lift being made in a single chamber, as shown in the annexed photographic view recently obtained.

This is now the operating lock of the canal, being 515 feet long, 80 feet wide, de-

creased to 60 feet in width at the gates.

It has a depth of 17 feet over the miter sills, and a lift of 18 feet. The depth of the chamber is 391 feet. At each end of the lock are placed outside guard gates of the same style as those in regular use, all being of the usual horizontal motion plan-

The inflow and discharge of the locks is provided for by two parallel conduits passing under the miter sills and lock floors; those for the inflow being 8 feet square, and having openings 2 feet square, occurring at regular intervals, under the whole length of the lock. This proves to be a perfect plan for the purpose, and is being copied, substantially, by the Canadian engineers.

The gates are operated by hydraulic power, in a simple but effective method, by

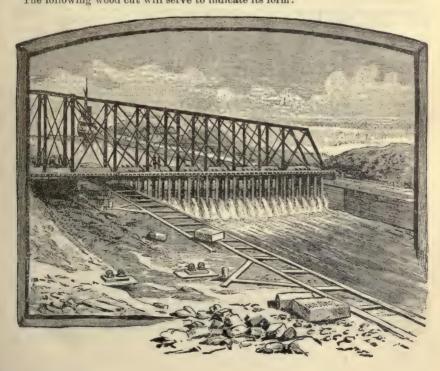
which, in two minutes of time, the leaves are brought into reversed positions. Eleven minutes suffices for filling the lock, and eight minutes for its discharge. The lock and the canal are equipped with electric lights, and vessels are passing at all hours; the estimated capacity being 4 per hour, or 96 per diem. The greatest daily number passed to date was on June 14, 1887, when 87 were locked through. I recently witnessed a pleasing instance of international courtesy, when two Canadian Pacific Line steamers, of 2,000 tons each, were locked together through this United States canal, without toll or charge of any kind.

At the upper end of the canal is anovel arrangement of a guard gate, to be used in case of any serious displacement or damage to the operating lock gates; an accident

which might convert the canal into the channel of a torrent, in which ordinary swing gates would not withstand the process of being closed.

This device may properly be termed a movable dam, and resembles, in appearance, an ordinary railway swing bridge, with the addition of a lower section moving in the canal prism. Its advantages are that it can be operated entirely on land, and, having slot openings, would not stop the current suddenly (being only partially shut, until each slot is separately closed), and thus this appliance would not invite the whole force of the current to crush the jambs or the gates.

The following wood cut will serve to indicate its form:



The possibility of this guard gate being called into requisition is not remote, for a heavily loaded steamship might easily surge against lock gates with force sufficient

to carry them away singly, or through a series of lifts."

The principle of the movable dam offers a reliable safeguard against such contingencies, and I can not too strongly recommend the adoption of the principle in its most improved form on the Atlantic and Pacific slopes of your water way, as of the highest importance. The credit of the above-mentioned device, I am informed, belongs mainly to Mr. Alfred Noble, formerly the assistant constructing engineer on this canal.

One feature of the new lock invites criticism. It is the drawing in of the chamber width at the gates, which is an unnecessary impairment of the capacity of the lock, as it prevents two vessels entering freely abreast. This feature is reported as being copied on the Canadian side, but in the latest and largest projected United States lock it is sensibly discarded altogether.

As before mentioned, the United States Government having engaged in the process of making all the lake-connecting channels of a minimum depth of 20 feet, new lock facilities commensurate with the increased draught became a necessary sequence. To provide these it was decided to remove the original locks already mentioned, and replace them by an enlarged lock with these unprecedented dimensions: 800 feet long, 100 feet wide in chamber and at gates, and having 18 feet lift,

with 21 feet in depth over miter sills.

The gates are to be in two leaves of iron material, each of about 55 by 45 feet in area, and, as General Poe informs me, are estimated to weigh 124 tons for each leaf. Upon an intimation that I thought a plan involving less weight might be devised, he requested me to submit the same to him when I should have it fully prepared; this I intend to do in time for your company to have the benefit of his judgment as well as that of the Canadian canal engineers, who also desire to adopt improvements in

The Canadian Government having determined to build, at this point, a canal within its own territory, work has already commenced [under contracts to be completed in 1892], upon a canal 150 feet wide at bottom, with locks 600 feet long, 85

feet wide, and narrowed to 65 feet at gates, with 181 feet over miter sills.

Assuming that both the United States and Canadian canal enlargements now in progress, will be in service at the commencement of 1895, the following growth of canal transit capacity in the first forty years of ship canal operations on this inland water course, will have been developed:

		Cubic feet.	Cubic feet.
1855.—Lockage.	350 by 70 by 16 (counting as one full lift).		392,000
	515 by 80 by 16		
	600 by 85 by 18t		
	800 by 100 by 20		
Lockage.	000 by 100 by 20	1,000,000	2 000 700
*	13 00 4		3, 202, 700
Increase, more	than 8 for 1.		

TRAFFIC DEVELOPMENT.

Surprising as the foregoing figures may be deemed, it will be seen that the traffic growth has a far larger ratio of increase. Thus:

	1855.	1888.
Registered tonnage	106, 296 30, 000	5, 130, 659 *6, 411, 423

* Official.

The returns of the first three months of 1889 indicate that the freight tonnage will reach at least 7,500,000 tons, for the season. (Traffic to August 1, 3,426,051 tons.) The tonnage increase of the canal traffic (with a most liberal starting figure of registered, instead of traffic tonnage), is, therefore, in thirty-four years, over 60 to 1.

^{*}Since these lines were written, I have been informed by Chief Engineer Page, who has charge of all the Canadian canals, that such an occurrence has taken place more than once in his experience with the Welland Canal (extending between Lakes Erie and Ontario). A steamer, its engines "caught on center" when the engineer attempted to reverse their motion, caused a pair of gates to be disabled during the present season; and in a previous year an entire series of connecting lift gates were carried away from the same cause.

That the progress of annual development may be noted, the tables of yearly returns are to be annexed (see Addenda, page 45), by which it will be seen that there has been a steady advance from the beginning, and that at the same ratio of increase the traffic of 1895 will approximate 15,000,000 tons.

These astonishing results already attained have been realized, notwithstanding the fact that railways have been extended to all the principal points on both sides of this inland water course, from end to end, and also that Lake Michigan, through its Green Bay estuary, extends within 60 miles of Lake Superior at the point where the mineral belt commences, and there draws away several million tons (or more than one-half) of the iron-ore product along the South Shore region of Lake Superior, " the shipment of which passes east through the Straits of Mackinaw, or south through Green Bay and Lake Michigan, and, consequently, does not appear in the canal totals, as given above. (See map.)

THE CAUSE OF THIS REMARKABLE WATER-TRANSIT DEVELOPMENT.

The conditions causing and controlling this carrying trade are clearly set forth in official communications to the Chief of Engineers, U. S. Army, by General Poe, U. S.

Army, dated United States Engineer's Office, Detroit, Mich., May 11, 1888.

It inclosed beside an admirable report by Mr. E. S. Wheeler, United States civil engineer, general superintendent of the Lake Superior Ship Canal. In it, as the result of a general inquiry among vessel owners, shippers, and consignees along this water course, the following data were established for the year 1887:

Average length of water transportation (Duluth to Buffalo), 811.4 miles.

Total of freight carried, 5,494,649 tons.

Total miles of conveyance for single ton, 4,458,544,804.

Total of freight charges, including terminal freight charges, \$10,075,153.13.

Cost of water transit per ton per mile, 0.28 of a cent. Referring to the reports of the Bureau of Statistics of the United States, Mr. Wheeler found that the average freight charges of the railroad trunk lines for 1886 were 0.999 of a cent per mile, and the average cost as between land and water carriage was as 811 is to 183. It followed that the saving for the year to consumers of staples seeking a market through this canal was \$34,557,140.

To this deduction General Poe adds the following remarks:

"It is not at all improbable that but for this water route, open for about seven months in 1887, the charges laid upon the freight carried would have amounted to \$50,000,000. If this estimate is not exaggerated, and I think it is not, then the actual benefit to producer and consumer was fully \$40,000,000 in that single year, divided among them in unknown quantities."

But Mr. Wheeler personally informs me that in pursuing the same line of inquiry for the year 1888 the existence of a decrease from prior water rates to that of 0.15 of a cent per ton per mile, or a reduction of about 44 per cent in that one year, was

clearly established.

This would swell the total of annual saving to the shippers and the public, as resulting from the canal facilities, to the aggregate of nearly \$60,000,000 upon the same basis of calculation as quoted on the authority of General Poe for the previous year.

Mr. Wheeler also predicts that the average of this year will reach still lower, and that the cause of these large reductions is to be found in the increasing use of much larger steamers, with freight-carrying capacities greater than ever before; the majority of these vessels now approximate 2,000 registered or 3,000 freight tons each, effecting by reason of such augmentation a great saving in expenses pro rata per ton as compared with the smaller craft of former years.

Here, then, is the primary cause and satisfactory explanation of the enormous developments of tonnage upon this inland water-transit line, namely, in its being unap-

prouchably cheaper than land carriage can ever be.

THE BEARINGS OF THIS EXAMPLE UPON THE NICARAGUA ROUTE.

I. This is the only ship canal on the globe with lockage facilities upon a scale comparable with that proposed for the Nicaragua Ship Canal transit project, and it affords a realized example upon which to base calculations as to the future of that enterprise. If the tonnage of this canal route upon a water course composed of a cluster of inland lakes, paralleled through their entire length by railways, on both of their borders, and with competing adjacent water courses as shown, has actually increased from 1,567,741 tons of freight in 1881 to 6,411,423 in 1888, and presumably to 7,500,000

^{*}At Escanaba, a city situated near the northern extremity of Green Bay, are docks with facilities for shipping ores on a more extensive scale than exist at any other port on the globe.

tons in 1889, what must be the traffic of the ship canal which bisects a hemisphere, saves 10,000 miles and fifty days of freight-steamer time between New York and San Francisco, and economizes proportionately in the time and the distance to and from

innumerable other commercial centers?

II. The same commercial forces which have raised the Lake Superior Canal traffic to the proportions stated wait upon the opening of the Nicaragua route to render a large section of this continent tributary to it. My views as to the extent of the same lead to the prediction which I will now venture to make, that the "Lake Superior" and "Lake Nicaragua" lock-lift canals will divide between them the carrying trade to European destinations of the products of the eastern slope of the Rocky Mountains, north of latitude 40°.

That the transatlantic traffic of the western slope will go via Lake Nicaragua no thinking mind will gainsay; but how many have considered how far eastward of the Rocky Mountains the competing line between these rival lock canals may come? Let them trace the one-hundredth meridian of longitude and notice how it bisects the great wheat-bearing belt of the Saskatchewan and Missouri Valleys in

Manitoba and the Dakotas.

Let them suppose the case of the owner of 10,000 bushels of wheat stored in an elevator upon that line of longitude, north of the latitude of Chicago, in the latter part of November. If he would ship by the Lake Superior Canal he must wait five months for the "closed season" to pass. (The annexed view of the original upper lock gate at the "Soo" during the five months of "closed season" will serve to illus-

trate the meaning of that term.)

The shipper by the Lake Superior route must add to his investment charges for interest, for insurance, and possibly for taxes during nearly or quite one-half of an entire year. After these drawbacks are met he must transport his grain by rail to Duluth; thence by steamer to Buffalo; thence by canal or rail to Montreal or New York; thence by steamer to Europe—this method of transportation involving three transfers en route. If, however, he loads his wheat on cars going West, they will deliver his grain at a Pacific seaboard, whence it will be carried by steamer through the Nicaragua Canal to Europe; a system of transit involving but one transfer en route, with no closed season whatever.

III. It is, from the foregoing premises, clearly deducible that the values of most of the exports, in at least thirteen States and Territories, besides several of the Canadian provinces, will be directly benefited by the water transit proposed by your enterprise; which will, in fact, constitute the small end of a funnel, the broad opening of which, reaching from Sitka to San Diego, extends eastward until it meets com-

peting lines of water transit via Lake Superior or the Mississippi River.

In the accompanying map of this continent the different colors indicate the portions which in my judgment are to remain commercially tributary to its three main water ways, viz: (1) The Lake Superior Canal and connecting lakes and canals. (Erie and Welland). (2) The Mississippi River and its tributaries. (3) The Nicar-

agua Canal. Also the remainder as connected with the seacoast.

Leaving this continent out of view, it appears that the currents of trade between this Central American route, in competition with those of the Suez tide-level canal will meet on the eastern coast of Asia, and that from the Straits of Sunda northward, trade and travel will gravitate strongly towards your route, moved thereto in no small degree by the attractiveness of the delightful scenery and climate of the Lake Nicaragua route, which will be in marked contrast with the intolerable heat and desolate surroundings which must always characterize a passage through the Red

Sea and the Suez Canal, where no sailing ship is ever seen.

From these considerations the conclusion must be drawn that no artificial water way can be projected which will make such an extent of continental coast line and inland territory tributary to it as will be courrolled by the Maritime Canal of Nicaragua, and that the data of the Lake Superior Ship Canal proves beyond peradventure that the Nicaragua Canal presents the most permanently profitable investment of its kind that can be offered to the public, because its position entitles it to be considered as the most important artificial water way on the globe, connecting, as it does, two great oceans at nearly the center of the habitable and consequently commercial zone, with all the traffic and revenues which that fact implies, in the light of the results furnished by the Lake Superior example.

NOTE.—Since the foregoing portion of this report was placed in type I have received from General Superintendent Wheeler an official statement of the traffic of the Lake Superior Canal for the year 1889, which is included in Addenda, page 45.

The only official report of the Suez Canal traffic for 1889 which I have as yet been able to obtain gives tables of the passages and receipts alone. But by comparison

of the latter with the returns in tons of previous years, I am able to approximate closely, and find the result to be, respecting these several arteries of commerce:

	Number.	Tons freight.
Lake Superior Canal lockages (1889) Suez Canal passages (1889)	4, 684 3, 425	7, 516, 022 6, 800, 854
	1, 259	709, 168

It thus appears that the Lake Superior Canal, in 1889, exceeded the Suez Canal in volume of business over 33 per cent. in voyages and 10 per cent. in freight, and consequently now ranks first as to commerce on the list of the world's artificial water ways.

ADDENDA.

[Referred to on page 43.]

Tabulated official returns of the commerce passing through the Lake Superior Canal from date of opening, in 1855, to 1889, inclusive.

	V68.	rs.	lock.	Tonna	age.		Ves-	re.	lock.	Tonn	age.
Year.	Sailing sels.	Steamers	Total lo	Registered.	Actual freight.	Year.	Sailing	Steamers.	Total le	Registered.	Actual freight.
1865 1866 1867 1868 1869 1870	(a) (a) (a) (a) (a) (a) (a) (a) (a) (a)	(a) (a) (a) (a) (a) (a) (a) (a) 366 395 453 466 338 399 431 573 792		106, 296 101, 458 180, 820 219, 819 352, 642 403, 657 276, 639 359, 612 507, 434 571, 438 409, 062 458, 530 432, 563 524, 885 5690, 826 752, 101 914, 735		1887	1, 549 833 569 684 1, 401 1, 091 1, 403 1, 718 1, 706 1, 663 1, 458 1, 709 1, 683 2, 534 2, 562 2, 009 2, 635	2, 739 2, 620 3, 609 3, 354 4, 584 5, 968 5, 305	(c) (c) (c) (c) (c) (c) (c) (c) (c) (c)	1, 204, 446 1, 070, 857 1, 259, 534 1, 641, 676 1, 439, 216 1, 677, 071 1, 734, 677, 071 1, 734, 688, 088 2, 997, 837 3, 035, 937 4, 219, 397 4, 289, 397 5, 130, 659 7, 221, 935	(c) (c) (c) (c) (d) (e) (e) (e) (e) (2) 1,567,741 2,029,521 2,267,105 2,874,557 3,256,628 4,527,759 5,494,649 6,411,423 7,516,022

a No record kept until 1864.

c No record kept until June, 1881.

REMARKS.

The United States Government assumed control of operating the canal on June 9, 1861, when more full and accurate returns were instituted and maintained.

The west-bound freight amounted to about 33 per cent.

The Canadian freight, in 1888, amounted to about 6 per cent.

Cost, conveyance 5,494,649 tons of freight in 1887, estimated at \$10,075,153, or, per ton per mile, 2.3 mills.

Cost, conveyance 6,411,423 tons of freight in 1888, estimated at \$7,833,077, or, perton per mile, 1.5 mills.

The consort masted barges are classed as sail vessels, but not used as such except in emergencies. No exclusively sail vessels are now regularly employed on that route.

The official estimate of expense for operating the canal for the year 1889 was \$36,000.

PART SECOND.

OBSERVATIONS UPON THE ENVIRONMENT OF THE MARITIME CANAL OF NICARAGUA.

It may be well to state, incidentally, that in January, 1889, I received official notice that I had been named as one of the five engineers selected by the Construction Company to compose an advisory board of engineers to pass upon the surveys and the detailed estimates of cost of the proposed ship canal of Nicaragua, formulated by its distinguished chief engineer, A. G. Menocal, civil engineer, U. S. Navy. Also, that after my acceptance of such position, I was in attendance during parts of several months at meetings of the board in the city of New York, within which time special attention was given to the admirable series of maps and profiles which had been prepared by your engineering corps, as well as to the geological specimens and test-hore cores, of which a very complete collection was at hand for our consideration, together with all requisite explanatory information, supplied by Chief Engineer Menocal or his assistants of the surveying corps, Mr. R. E. Peary, civil engineer, U. S. Navy, and Ensign J. H. Maxwell, U. S. Navy, who attended meetings of the board for that

The reliable information thus at hand was sufficient to enable the board to arrive at determinate opinions in reference to the main features of the work, which, through our report, wherein we confined ourselves to the vital questiens of quantity and cost, have been made known as the collective conclusions of the examining engineers.

At a later period came the request contained in the introductory correspondence that I should, individually, enlarge the scope of observation, and consider and report upon circumstances and conditions other and beyond those to which the advisory board confined its inquiries. In complying with such suggestion, I desire at the outset to state that my aim in preparing this report will be to explore fields of investigation not referred to by the able and distinguished experts who were my associates in the late advisory board. With these preliminary remarks, I proceed to the consideration of certain fundamental features of this undertaking, as the basic conditions upon which to predicate reliable estimates, and also sustain the conclusious embodied in these pages.

FIRST.—Local geological developments.

Beginning at the deep-water line in the Atlantic basin, nearest the most northerly entrance to the San Juan River, the surveys prove that in securing 30 feet depth of water way, no rock formations will be encountered in the harbor basin or canal prism until the site of Lock No. 1 is reached. These most favorable geological conditions insure the practicability of excavating that portion of the Eastern section of the canal westward from Greytown Harbor, about 10 miles in length, by the aid of dredging machinery solely, where entire freedom from current agitation is assured, with convenient and ample dumping area under like conditions.

The excavation (as proven by the borings made by your surveying corps) will be either through alluvial silt, or sand, or clay formations together extending entirely

across the delta of the Rio San Juan.

(Diagram A, attached, shows the composition of the canal prism between the ocean

and the highlands of the San Juanille range.)

The geological conditions of this section must consequently be regarded as extremely favorable for the rapid and economical construction of the work. There is also great economic significance in the fact that in these lowlands where, if at all, miasuratic attacks upon the working force may be anticipated, all excavation being effected by machinery, the operating employés will be sheltered from exposure to the sun and rain, and drilled in sanitary precautions—a course which will work wonders in maintaining health and vigor in the skilled labor required in the management of the allpowerful dredging appliances which modern ingenuity has supplied for the rapid and economical accomplishment of the extensive tide-level excavation required upon this section of the work.

In examining the next section, reaching from Lock 1 to the San Juan basin, above the Ochoa Dam, it is very gratifying to find that the first lock on the Atlantic slope will be placed upon solid rock foundations (see Diagram A), and that Locks 2 and 3 will also be located in rock ledges.

The importance of this beneficial feature, insuring the stability of the lock walls,

is too apparent to need extended remark.

The nature of the rock through which the great "divide cut" and other "cuts" are to be made, is also decidedly favorable, in view of the fact that it is, as shown by the specimens exhibited, homogenous, and neither friable nor traversed by seams, nor decomposable to any appreciable extent by exposure to the elements. the sides of the cuts may be safely left at an angle but a few degrees removed from the perpendicular, thus effecting large reductions in the quantity of excavation usually required to render the slopes both safe and permanent. (See Plate I, Dia-

Passing by the lake level as not involving questions that require a study of geological conditions, I can but pause, when considering the location of the locks on the Pacific slope, to express admiration at the wonderfully-favoring geological formations which nature has furnished and the skill of your engineering department has shown

to be available for those structures.

That, at the summit of the western slope of the continent at this point, there should rise, as a rampart for the long, summit level of the canal, a sufficient width of primeval rock into which the locks to regulate this mighty reservoir may be firmly bedded—thus to form the imperishable gateways of the descent to the level of the Western Ocean—is a fortuitous geological feature of great significance as presenting a perfect barrier against disastrous undermining casualties to the high-level water way, and also as affording the best possible conditions for permanance of the locks. Plate VII.)

A studious view of this section of the canal as it will appear when fully completed, will give force to the prediction that, when this work is an accomplished fact and when ocean steamers of the largest class, their decks crowded by hundreds of passengers, and their holds laden with thousands of tons of freight, are seen on the crest formed by Lock 4, majestically rising from, or descending to, the broad Pacific, that reaches out to the western horizon in unobstructed view below—the spectacle will be deemed to display one of the most impressive of the mighty engineering achievements of any age.

The test borings in the lower valley of the Rio Grande, completed at Brito during the past winter, show that the full depth of 30 feet will there be attained without encountering rock, and that a harbor as spacious as that of Chicago or Port Said may be made available by the simple and rapid process of inland alluvial dredging, duly protected by seaward entrance piers, thus assuring ample and economically constructed terminal facilities on the Pacific coast.

The geological conditions of the canal route are, therefore, as a whole, deemed to be of a remarkably favorable character.

SECOND.—Topographical features.

From the east the seaward approach to this grand interoceanic route is unexceptionable, as the proposed harbor at Greytown, when completed, may be entered or cleared by craft under sail, with the wind upon any quarter. Thence, extending nearly in a straight line of canal about 10 miles through the San Juan lowlands, a channel in full view from end to end will afford all possible facilities fer rapid pas-

sage over the section extending between the harbor and the eastern locks,
Passing the locks, the Deseado basin will be available with extra width of water
way up to the "divide cut," where a channel through 3 miles of solid rock will
bring ships into the San Francisco basin, with its ample water way for clearance of counter bound craft. Passing through three short "cuts," vessels will then enter the San Juan basin, with its surplus breadth of counter passage way caused by the water storage of the Ochoa Dam; thence into the great Nicaragua Lake; thence by canal into the Tola basin, resulting from the storage of the waters of the lake by the dam near Lock 4. This basin extends the upper level to a point but 4 miles distant from the Pacific Ocean, where in full sight of it, ships may lie, awaiting orders, making repairs, shifting cargo, unloading or transferring the same, alongside or at warehouse piers with all the unlimited accommodations of the shores of this landlocked lake at command, having upwards of 15 miles of water front, where every commercial facility may be obtained, all within easy access of the port of Brito. Graving docks of unsurpassed convenience may also be constructed in the Tola basin, owing to the ease of obtaining sluice discharge for dry-dock purposes. (See Plates VI

The following important natural facilities for prosecuting the work of construction

should not be overlooked:

Of 153 miles of route from Greytown to the mouth of the Laias on the western shore of Lake Nicaragua, 90 miles border on water ways, with no sections of the entire work, except interiors of divide cuts, more than 2 miles distant from navigable waters, including under that head such as may be made available by certain inexpensive improvements, proposed by your chief engineer—the lines of which are indicated in red colors upon Plate I, his explanation thereof being annexed in a marginal note herewith.

For the heavy work of the canal excavation, a construction railway will be requi-

site, and can be provided at moderate cost.

Along the western section, 17 miles in length, a double-track railroad will, of necessity, be provided; and must be relied upon for distribution of labor, machinery, and material. This represents, however, an average maximum haulage of less than 9 miles from either of the two bases of supply by water-transit, one being via the Pacific, and one via the Atlantic coast. The canal level being but 43 feet below the highest point on this section, it follows that subsidiary railway construction and operation along the working line will be upon easy grades with ample level spaces for side tracks and the other facilities requisite for the handling of surplus excavation, or of building material.

The paramount question of an abundant, and yet always controllable and reliable, high-level water supply for canal lockage and filtration is completely answered in this case by the presence of such equalizing reservoirs as Lakes Nicaragua and Managua. From these sources an average flow of 90 per cent. over canal-operating requirements is obtainable at ordinary level, while lowering the level of the lakes the depth of 1 foot, would afford an enormous surplus over any annual requirements,

with regard to rainfall.

It appears from the latest surveys that the minimum radius of curves on the entire line can be established at 3,820 feet, which presents a route equal to a straight line,

for all practical purposes of navigation.

The last topographical feature to be noted, is the ratio of minimum channel width to the whole distance to be traversed between the two oceans. This is found to be less than 16 per cent. of the whole passage. Of the entire route, about 60 miles are in spaces sufficiently wide for the largest ships to navigate under sail, as in Lake Nicaragua; while about 76 miles are in the Deseado, San Francisco, San Juan, and Tola basins, where steamers may proceed under full headway, and pass one another in counter directions, with safe clearance space. Practically, this general result reduces the distance of canal navigation—properly so termed—between the two oceans, to about 27 miles: the remainder having the characteristic of The last topographical feature to be noted, is the ratio of minimum channel width tween the two oceans, to about 27 miles; the remainder having the characteristic of an ocean estuary.

The result is a monument to the patient research and persistent explorations or

*CHIEF ENGINEER'S OFFICE, NICARAGUA CANAL CONSTRUCTION COMPANY, 44 Wall Street, New York, December, 1889. .

DEAR SIR: I forward herewith a tracing of that portion of the Nicaragua Canal comprised between Greytown and Ochoa, showing the streams connecting the river San Juan, at the mouth of the river San Francisco and Greytown, with the eastern The San Juanillo is navigable by craft drawing 4 feet up to the outlet of Laguna Bernard, and through this outlet and the lagoon to a point in the Deseado in the vicinity of Lock No. 4. From this point to the foot of the divide the Deseado can be made navigable with the same draught, by removing the logs obstructing the stream and the construction of three, and possibly four small low dams. In order to avoid the expense in building temporary locks to connect the different reaches into which the stream would be divided, I would be in favor of having scows in the reaches, and a derrick at each dam to shift freight from one scow to another.

The river San Francisco, when cleared of logs, will be navigable by the same class of boats to very near its confluence with the Chanchos. From that point to the foot of the "divide," on the west, the Chanchos and Limpio would afford transportation by the same method proposed for the Upper Deseado.

In this manner building material can be transported to the divide and the excava-

tion commenced during the construction of the railroad.

Any further information you may desire, will be gladly furnished by

Yours, truly,

A. G. MENOCAL, Chief Engineer.

CHARLES T. HARYEY, Esq., C. E. City.

†Total length from extremity of entrance plers at Greytown to like point at Brito 171.429 miles. (1.513 being in Greytown Harbor, and 1.136 in Brito Harbor.)

your chief engineer and of your surveying corps, and to the wise foresight of the management in providing means for a thorough exploration of the region thus traversed preliminary to final location of the route.

THIRD.—Engineering Problems.—Among other striking features of the undertaking is the fact that with such ample transit facilities in view, their realization involves

no unusual or overshadowing engineering problems or contingencies.

The locks to be built are upon a scale already in use at the Lake Superior ship canal, and with advantages over the latter in having solid rock foundation through-

out their entire length.

The sea approaches and the terminal marine accommodations proposed for this enterprise present no features which have not already been met by engineering. talent at other commercial centers requiring facilities of a like character or upon even a more extended scale. The precedents thus fully established leave no elements of uncertainty in this respect, and these questions, therefore, require no special notice beyond a scrutiny as to quantities and cost-subjects, however, that are not now under consideration.

Being led, in the course of this examination, to concentrate attention upon the features of the route through the highlands-commencing at Lock No. 1 on the Atlantic slope, and extending thence westerly to the vicinity of the Ochoa dam- I find the subject to be one of such rare interest to engineering minds that I have caused a series of diagrams and views designated as "plates," to be specially provided and appended hereto, in illustration of the features worthy of particular remark.

Referring to Plate No. 1, attention is called to the strides which modern engineering has made along the line of experimental research, on which your chief engineer has shown himself such a successful leader. Not many years since, the vicinity of the Rio San Juan would have engrossed the entire attention of the engineering corps, upon the assumption that, as a matter of course, it must be adopted as the base line

of the lock lifts and of the canal prism.

But patient and laborious explorations, surveys, and researches in many directions have shown a new and more desirable route to be practicable. This is accomplished by leaving the San Juan above its lower levels, and utilizing a series of minor valleys, occupied at present by insignificant streams, which when dignified by the overflow from the San Juan will, by the transformation, approach the sublimity of a new creation. This metamorphosis of mountain streams and interior valleys (now vis ited only by explorers and hunters) into a grand artery of interoceanic commerce, will be an achievement which the whole world may well applaud.

The process by which this result is to be accomplished is easily traceable on the first of these plates. Lock No. 1 will lift 30 feet above the valley of the Deseado and will create a lake, the overflow of which is provided for by a waste weir in the adjacent dam. Lock No. 2, with its 31 feet of lift, will, with its embankments, cause the formation of a lake rising to its level, while Lock No. 3, with its 45 feet of lift, will create a lake to fill the basin up to the base of the dividing ridge, at the point indicated on Plate I. Then follows the piercing of the transverse range of hills by the "divide cut," the dimensions of which are accurately indicated in Diagram 1, on the same plate. This is not a very formidable affair, at most; and when it is com-pleted and three dams (see Diagram 3, Plate III) have been erected upon the branches of the San Francisco, and a "cut"—comprising less than one-third of a million yards of excavation, of which less than 10 per cent. is rock (see Diagram 2, Plate I)—connects the two valleys, a double lake will be produced, adding nearly 7 miles to the navigable water way. Another "cut" of a half million yards of earthwork, in connection with another dam at the Rio Danta (see Diagram 4, Plate III) will create an additional lake, adding 2 miles more to the navigable water way. Yet one more "cut," involving but a million and a half yards of earthwork excavation (see Diagram 4, Plate I), and we are ushered into the valley of the San Juan.

This expanse of artificial lake channels (see Plate I) requires but 24,990 lineal feet

of supplementary embankments to secure their outer boundaries at points where watersheds or courses lead in other directions. This feature, coupled with the fact that most of the restraining embankments require but a few feet of elevation, the deepest gorge to be thus secured being but 21 feet below bottom level of the anal renders the aggregate of retaining embankment remarkably small. The same method has been successfully adopted in building the Ohio State canals, as the following ex-

tract from a recent publication indicates:

"The body of water which (in 1889) supplies the St. Mary's feeder of the Miami Extension Canal (of the Ohio State canal system) is about 9 miles long by 3 miles broad. It was formed by building two earth embankments from 10 to 25 feet high, one 2 and the other 4 miles long. About half of the area flooded was a prairie and the remainder a forest. The reservoir was begun in 1837 and finished in 1845."

With this example in existence, and taking into consideration the always reliable and ample surplus of the flow of the lake and River San Juan, that these valleys will prove abundantly retentive under the pressure of the proposed water filling, is placed beyond reasonable doubt.

This marvelously practicable route—having regard to the ease of formation of navigable basins and of their being artificially linked together in a continuous serieshas the further admirable feature of exhibiting this feasible and ample water way extending along almost a straight line in the general direction desired.

OCHOA DAM.

The Ochoa dam is located at the point where the summit-level water way, formed in the valleys of subsidiary streams, as already mentioned, connects with the valley of the San Juan.

Here advantage is taken of a ridge of hills which contract the valley and form natural side embankments, which can be utilized with all the benefits thus provided

The accompanying view (Plate II) of the natural ridge referred to is copied from a photographic view in the report of the United States Government survey of 1885.

These natural embankments reduce the dimensions of the dam required, as indicated by Plate III, to a size far from unusual, as is shown by the annexed table of comparative dimensions of works of this character existing in other localities.

Name of dam.	Location.	Length at top.	Total height.
Villar	Spain	Feet. 546 762 925 1, 350 1, 060 8, 500	Feet. 175. 2 166. 5 164 146 137

Without entering into the details of the plans for the construction of the Ochoa dam suffice it to say that from the "divide cut" surplus excavation rock material wherewith to raise an embankment, answering the purpose of a dam, and of dimensions sufficient to render it as firm as the primitive hills by which it is flanked, may

readily be brought by rail.

To conclude remarks upon the subject of the dams located along this route, diagrams of the largest subsidiary dams are given upon Plate III, from which it will be seen that none of them are of such dimensions as to require special consideration. The total length of all of them combined, including Ochoa and those on the western slope is, but 11,720 lineal feet, whereas in the waterstorage and aqueduct system of the city of New York alone are to be found 7,569 lineal feet of dams already constructed, and 4,206 feet additional yet to be built, making a total of 11,775 feet, which is actually in excess of the requirements, in that respect, of this entire route from

Included in the last-mentioned estimate is the structure known as the "Quaker Bridge Dam" of the following dimensions: Length, about 1,400 feet; height, 265 feet

This, it will be seen, has 21 times the superficial frontage and 34 times the height of the Ochoa structure. If the criticism be made that it has not yet been completed and practically tested by use, the table on page 39 meets that objection by indicating the relative proportions of other dams of large dimensions which are now in constant

Turning westward, the effect of the Ochoa dam in raising the level of the river 58 feet at that point should be noted. It converts the lower valley of the San Carlos into a lake, the boundaries of which, indicated on Plate IV, extend southward about 10 miles in a straight line, and are flanked by hills upon the eastward side, except for the short distance of 5,540 feet where artifical embankments of but moderate elevation with due proportions of wasteweir will be necessary.

The problem of the effect of such massing of water filling upon the upper channel

of the San Juan is happily one easy to solve,

Plate IV shows the course of the river to be in a well-defined valley, which maintains like characteristics throughout the entire distance from the Ochoa dam to the entrance of Lake Nicaragua, 641 miles distant by the sailing line.

The whole distance is thus converted into slack-water navigation, and while requiring excavation at various points to secure the minimum of depth, the channel for a large part of the distance has such surplus of depth and breadth of water way as to insure the advantages of lake rather than of ordinary canal or river navigation.

Plate V, from a photograph in the report of the United States Government survey of 1885, presents a very clear idea of a portion of the upper waters of the San Juan River-above the Ochoa dam. The view represents the locality near the Castillo rapids, midway between the dam and the great lake. The channel surface at this point will be raised about 20 feet, and it will be seen from the view that the banks of the stream are ample to keep the ultimate enlargement of the volume of water within favorable bounds.

The amount of dredging required to secure a navigable channel from the junction of the "divide" channel with the San Juan slack-water course, to keep deep water in Lake Nicaragua, has been ascertained to be 7,275,590 yards, distributed over a distance of 44 miles, including 14 miles of channel, deepening between the river head and deep water in the lake itself.

These results carry with them the proof of a grand conception and no words of

mine are requisite to add to their force upon appreciative minds.

Passing beyond the magnificent expanse of lake surface, where navigation is unobstructed (in one ortion of the course the distant shore scarcely appearing above the horizon), the construction operations necessary to extend the canal through the

western land barrier, 15 miles in width, next claim attention.

This portion of the work displays among its features engineering devices of more than usual interest, shown upon Plates VI and VII. The first point for remark is the changing of the bed of the Rio Lajas near the lake, to prevent its crossing the line of the canal. This operation is favored by local topographical conditions, and frees the canal along that section from interference by floods. Thence by easy curves the canal crosses the divide between the Atlantic and Pacific slopes, through a cut, of which the banks rise to but 41 feet above the water level. What a monument to the exhaustive preliminary explorations and surveys made under the direction of your indefatigable Chief Engineer exists in this fact alone! Those who know, or who will trace the course of the stage-route between Lake Nicaragua and the Pacific coast, opened by Cornelius Vanderbilt in 1850,* will best appreciate the natural advantages of the route selected for the canal.

The next feature is the Tola River or La Flor Dam, the dimensions of which are

indicated on Plate III, Diagram 2.

Located in a gorge of the mountains, and but 4 miles distant from Brito Harbor, it creates a lake of such proportions as to add 51 miles of navigable water way to the route, with no watershed leading westward requiring border embankments to guard the same. Here ends the summit level of the canal, extending from within 4 miles of the Pacific, to within 13 miles of the Atlantic, and including a system of natural reservoirs which appear as if originally planned to provide a water supply, unfailing and easily controlled, and which could hardly be surpassed for the purpose to which it is now to be applied. The situation of the locks have been hereinbefore remarked upon, except as to their lifts, which comprise two of 421 feet each, Nos. 4 and 5, while that of No 6 is but 25 feet, as indicated upon Plate VII. Referring to the profile showing the relative position of the rock strata along the route, further mention of the admirable features connected with their location is not requisite, in view of the proofs afforded in Plates VI and VII.

The harbor of Brito, it will be noticed, lies in a comparatively sheltered position,

and yet, like that at Greytown, can be entered by vessels under sail, with the wind

npon any quarter.

Thus far as to the salient engineering features of this undertaking.

FOURTH .- Climatic conditions.

That climatic influences upon the general health of workmen, especially when migrating to a great distance in the execution of public works of such magnitude as that now under consideration, affect largely the monetary cost of the same, none can doubt. Those enlisting to labor in such undertakings invariably and wisely, take into account the possibility of detrimental effects of the climate upon their health, when stipulating as to remuneration.

After careful and extensive inquiries in that regard, I am satisfied, as I think other candid minds must be upon similar investigation, that the health conditions are, in this case, essentially favorable to the work, and that the section of Central America

traversed by the canal is entitled to be classed as a healthy region.

The lowlands of the San Juan are the most exposed to miasmatic influences; but the work there being wholly done by machinery, and the operators being mainly under cover and subject to control as to matters of food and sleep, modern sanitary appliances, as previously remarked, will neutralize such deleterious influences to a great extent.

^{*}The course of this once frequented route can be traced upon the model lately on exhibition by the Maritime Canal Company. In traversing this "divide' travelers were led across elevations over 600 feet in height.

On the highlands of the eastern slope, where the greatest number of men will be required, the drainage is good, with clear spring water in abundance. The well-known trade winds of that zone circulating from ocean to ocean with a regularity found nowhere else on this hemisphere, clear the atmosphere and moderate end equalize the temperature to a degree affording incalculable benefits and physical comforts along the San Juan Valley," while in the vicinity of Lake Nicaragua and on the Pacific slope the same proverbially healthful climatic conditions are found as prevail upon the coast of California.

A practical proof of the reliability of these conclusions is supplied by the record of the company's surveying corps of 1887-'88, consisting of sixty men transported from New York and more than one hundred natives enlisted on the spot, all of whom encamped along the line for many months; and yet, as Ensign Maxwell informs me, not one of the party was prostrated for more than a day or two by sickness, and the original party returned to New York in better general health than when they left that

This incident, so recently and so reliably attested, has a special and most favorable significance.

FIFTH.—Commissary, sanitary, and police organization and supervision.

The affairs of administration indicated by this caption all pertain to the cost of carrying on the work, and while more especially within the business department of the enterprise, seriously affect also its engineering resources, consequently they are deemed proper to be herein mentioned in an advisory way.

The quality and quantity of food to be furnished to the working force should not be left to the caprice of speculators, nor to be dispensed by those seeking a profit in so doing, for upon the maintenance of a proper standard and supply of diet largely depends the reliability and vigor of the laborer. Neither should sufferers from accident or sickness be committed to the care of casual sympathy or chance acquaint-The company should retain control of the food supply, and medical and surgical care and attendance should be regulated by special arrangements which will secure reliable and competent management of details in these important departments.

My own experience as business manager of the company which built the Lake Superior Ship Canal enables me to state that in that undertaking the observance of such a policy as here indicated was an indispensable element of the success then and there attained. Before the visitation of epidemic cholera in 1854 official control of the food supply and the medical oversight of about four fifths of the working force of nearly three thousand men was committed to my charge, and a hospital with a corps of skilled attendants was also instituted under my supervision. When these precautions were tested by that terrible scourge the result disclosed a loss of less than 5 per cent of the cholera cases under my control, as against a loss of fully 95 per cent of those who did not come within the lines of my sanitary regulations-in an aggregate of several hundred deaths at that time and place.

It is assumed that your company, directed by a wise foresight, will organize and retain control of an efficient police and sanitary corps, patrolling the entire line of work for the enforcement, not only of personal and property rights, but of strict and

comprehensive sanitary and sumptuary regulations.

SIXTH .- Sources of labor supply.

When considering this important element of cost, I learned from reliable sources that hardy and efficient laborers at lower rates of wages than are current in this vicinity may be obtained in large numbers from the west coast and from the moun tain districts of Mexico. Also, that negro labor, duly acclimated, may be drawn largely from the Mississippi Valley and from the West India Islands. Southern European countries, it is well known, can contribute sturdy white workers of a higher grade, while skilled labor can be furnished in abundance from this vicinity; and from all these sources workmen can be conveyed by water direct to the line of the work. These conditions are, therefore, to be classed as remarkably favorable in all respects.

This subject completes the list of features worthy of special consideration, which together constitute the conditions of which a knowledge must precede the formula-

tion of reliable estimates of the cost of the proposed undertaking.

^{*} This portion of Central America is elevated but 110 feet above tide level, being the least obstructed by mountains of any part of the Pacific coast from Alaska to Patagonia. The refreshing trade winds, with a freedom of circulation caused largely, no doubt, by the remarkable depression in the longitudinal mountain ranges (elsewhere presenting barriers ranging from 1 to 2 or more miles in height), here maintains a "stiff breeze" during several hours of each day throughout the year.

CONCLUDING OBSERVATIONS.

The revised estimates of the advisory board were concurred in by me as embracing an ample estimate of the cost of constructing the Nicaragua Shir Canal under favor-

able conditions of financial administration and executive ability.

In that estimate there is, in my judgment, a margin for contingencies sufficient to include the enlargement of the locks from the capacity proposed by your chief engineer to the advisory board, viz, 650 by 80 feet chambers, to the size I would earnestly recommend for adoption, viz, 1,000 by 100 feet. These dimensions will be of the same width and but 200 feet longer than those adopted for the new lock of the Lake Superior Canal, where experience has demonstrated the economy in time, or locking through several vessels together. The reasons for this increase I will, if desired, submit in a separate report at a later date, prior to the time when the progress of the work will necessitate your decision.

To my mind it seems clear that when investors examine the schedule of cost as reported by the advisory board, the more scrutiny they bestow upon it the earlier will they reach the conclusion that under no ordinary contingencies will it be exceeded by the actual outlay; and that when open for traffic the canal finances will be as easy of management as its water way. When thus opened, the crisis of both will have been passed, and both alike will command the admiration of the world. Let him who desires to leave his accumulating wealth where his posterity will find it intact in form, and of constantly increasing value, from the growth of commerce

between the nations, duly appreciate this golden opportunity.

The world at large may adopt many novelties in methods of transportation, but to supersede the economies secured by such an interoceanic water way is not among the possibilities of human progress. The expenses of the Lake Superior Ship Canal in lock lifting nearly 8,000,000 tons of tribute-paying freight during this year are officially estimated at \$36,000, or at the rate of about four-tenths of a mill per ton. What other form of transit can present such results?

REVENUE ESTIMATES.

It will be presumed that in a general review of the principal features of your enterprise the important subject of the extent of its probable traffic will not pass unnoticed; but while appreciating that fiscal promise is the one prerequisite of every incipient enterprise, of this nature, I leave this branch of the subject to others whose experience renders them more facile than myself in that line of expert estimate.

COMPARISONS.

The old adage that as between persons "comparisons are odious" applies, in my judgment, with special force to indiscriminate suppositions of parallels between existent or proposed ship canals. Many have assumed a similarity of conditions as affording a basis of comparison between the Nicaragua, the Suez, or the Panama routes; and, moreover, finding errors in calculations proven in the estimates of cost in the last named enterprise, they proceed to infer like results in the first, especially in the line of deductions respecting the unreliability of engineering estimates relating to the time and cost of construction in one of those undertakings as applicable alike to all of them, when in fact there is and can be no practical ground of comparison. To emphasize this conclusion it may be well to devote a short space to a review of the main features of the other projects thus compared with the Nicaragua enterprise.

THE SUEZ CANAL.

Let the Suez Canal be first considered. It is a water way, excavated mostly through a sandy desert for a distance of 88 miles,* connecting two tide-level seas. It was projected as long ago as in the time of the Pharaohs. The historian Herodotus, who lived in the fifth century B. C., asserts that Pharaoh Necho expended 120,000 lives working upon it. The same writer refers to it as being used in his time and as wide enough to admit of the passage of two vessels abreast, while the passage is described as occupying four days.

It was subsequently allowed to fill up with the shifting sands of the desert and it remained thus until its restoration was undertaken by M. de Lesseps, in conjunction with the Khedive of Egypt, in 1858. It was formally reopened November 17, 1869.

^{*}Sixty-six miles of dry excavated channel, 14 miles of dredged, and 8 miles of natural-lake passage.way.—Encyclopedia Britannica, Vol. IV, Page 791.

The problems presented were, from an engineering point of view, of the simplest kind, involving merely an open cut upon and between tide levels. It has, however, as to its main features, to meet a danger and expense that was and still remains unique; namely, the constant tendency of natural causes to choke it with shifting desert sand. This menace requires the counter force of dredging and led, at the outset, to opinions by distinguished engineers that the income would not warrant the expense. It has, however, been a triumphant vindication of M. de Lesseps' faith in the ultimate success of the undertaking; in 1888, with a total income of 45,242,021 francs but 7,743,064 francs were required for the operating expenses. The increase of revenue for 1888 over 1887 was 12½ per cent. The average time of passage was 304 hours. The latest annual report shows that 3,998,914 cubic meters of sand were removed from the canal during that year. This represented, in part, the accumulated drift from the desert simoons, and also the excavation consequent upon gradually widening and deepening the channel. It is reported that this work will be so far completed by another year that two vessels will have clearance for counter passage at any point.

It is now about twenty-one years since the narrow channel was first opened for traffic. The proportion between sand drift and new prism area removed last year was not stated in the report, but there is no doubt that were this continuous warfare against the climatic force which dominates in that desert region to be altogether abated, the canal would, in the process of time, be quite obliterated for many miles of its length.

These being conditions peculiar to the Suez Canal, how evidently absurd is any attempt to draw engineering comparisons between it and the Lake Nicaragua route.

THE PANAMA CANAL.

Comparative examination of the Panama project, however useless from an engineering standpoint, yet, as connected with M. de Lesseps, the successful projector of the Sucz Canal, invites a measure of consideration, as affording an interesting study

of the history of an attempt to make assumption wear as well as fact.

To studious engineering minds the Panama problem originally presented collateral difficulties equal to those incidental to the canal itself. The route of the canal from Colon westward follows the ascending valley of the Chagres River. That water course must be controlled, but how? Given a river draining an area of about 1,400 square miles; discharging in the dry season at its first point of contact with the line of the canal 15 cubic meters of water per second, but in the wet season 4,670 meters in the same time, precipitated mainly from numberless steep ravines and high mountain sides, from whence the rainfall quickly concentrates in the main outlet and often in a few short hours, causes a rise in the Chagres River of from 20 to 60 feet in height of solid water pressure, increasing its volume to over three hundred times its minimum discharge! This, M. de Lesseps contended, might be controlled or eqalized by a reservoir. To accomplish this end a stupendous dam a mile or more in length, 120 feet high, and 250 feet thick at base, was calculated by French engineers to be necessary, and was to be located south of the canal and at a considerable distance therefrom in a subsidiary mountain gorge.

But even with the dam complete the overflow must still be provided for. To dispose of this there was proposed a tunnel, to be bored for miles through the mountains, with dimensions sufficient to convey the surplus flood into another valley for exit to

the sea.

That M. de Lesseps should seek every possible way to avoid the cost and delay of these gigantic preliminaries is not surprising; but for the ostrich-like policy of hiding the head of the dilemma by means of a vigorous show of digging upon the canal proper, while the body of the difficulty remained uncovered, there could be but one ending, namely, the probably irremedial disaster already developed. The giant floods of the uncontrolled Chagres River now hold undisputed sway over the route of the canal whenever appearing in their torrential strength.

Other difficulties, more or less serious in their nature, must be overcome to achieve final success in the line of that effort, but one of which will now be remarked upon. It was the popular impression obtaining at the time of its commencement that the

Panama was, like the Suez route, to be a tide-level canal.

But tidal differences existed which precluded such similarity. The tides of the Mediterranean Sea have but 12 inches of variation between high and low tide. Likewise those of the Red Sea change but 30 inches from mean level; hence a connecting channel between them through an "open cut" was practicable. But on the Panama route, while the maximum variations of the Atlantic tides at Colon are but $1\frac{\pi}{L_{\rm E}}$ feet,

^{*} Some expert estimates place the maximum of these floods at 165,000 cubic feet per second, or at nearly half the flow over Niagara Falls!

those of the Pacific at Panama show changes of $21_{7}^{3}_{2}$ feet in level. This feature, it will be readily seen, necessitated the existence of at least one lock on the Pacific coast, and if but one, then with double gates to meet the alternate water pressure in opposite directions.

And yet it was generally understood that the original plans called for no locks in the Panama route. Afterwards, this feature was reconsidered, and a series of locks were officially announced—but without provision for supplying the highest level, except

by pumping.

Such circumstances point to the conclusion that there had been no carefully studied and matured plan of construction, with a fixed estimate of cost, but only a vague and uncertain groping after a result—to be arrived at by whatever means circumstances might determine, and at whatever expenditure of time, money, and life, chance should decree. The case is therefore in no wise analagous with the Nicaragua route, excepting as to the use in common of the word "canal."

My conclusion is, that the only canal which can at present be referred to as similar to your enterprise, is the one of which a sufficiently extended notice has been already

given, to wit:

THE LAKE SUPERIOR SHIP LOCK CANAL.

It ranks with yours in its lockage capacity; like yours, it has an enexhaustible reservoir on its upper level; and again, like yours, it has required the deepening of natural water courses to furnish a continuous and capacious ship channel. Also, this canal was built within the original estimates of time and cost. It has been in uninterrupted use for over a third of a century, and maintains an ever-increasing volume of traffic—which is but an example of what the Nicaragua Ship Canal will demonstrate in its cost and durability, and will develop as to dividend-earning qualities, whenever a suitable opportunity is afforded to test its performance.

IN CONCLUSION.

When taking leave of this subject, the professional mind is led in two directions: First.—Retrospectively.—Upon looking back to the commencement of the present century, the retrospect discloses the energies of the world engrossed, in the main, by the profession of arms and in warfare on land and sea. Railroads and steamships were unknown, and the science of engineering was in its infancy—even the title of civil engineer being almost unused. On the first of January, 1891, the last decade of the century will have commenced. What a change will then be traceable between the opening of the first, and of the last tenth of the cycle! Now, the engineering profession, including therein its civil, mechanical, and architectural divisions, is in the van—the leader of the world's energies.

Second.—Prospectively.—Notwithstanding the vast strides with which modern improvements have lately advanced, it is safe to assume that the last decade of the century will witness its most notable achievement in the completion of the interoceanic canal of Nicaragua. In the progress of its construction the power of applied

science will have its fullest scope.

Mammoth dredging machines, unknown to our fathers, will plough their way with irresistible force and marvelous rapidity from the shores of the Caribbean Sea to the foothills of the San Juanillo range. There, steam and air drills and the dynamite genii will attack the rocky ledges, and where naught but the untrodden wilderness can now be seen, leave behind them the grandest highway of the nations. When the locks and dams have taken form, Lake Nicaragua will become a central rendezvous for the fleets engaged in the commerce of the new world. Electric lights will render the dark canons of the "divides" and the entire route of the canal, as passable by night as by day; and by its far-reaching wires, the telegraph will convey dispatches from every section of the noble water way to the commercial centers of both hemispheres.

All these forces, in combinations not known or suggested in A. D. 1800, will, no doubt, before A. D. 1900, have secured the completion of this grand conception. That it will be a fitting culmination of the engineering achievements of the Nineteenth

century, who can doubt?

I have, in conclusion, only to remark that I shall deem myself honored by having aided forward, in anywise, the consummation of this project, insuring such vast utilities; and also that I feel impelled from the study of the data referred to herein, to congratulate its managers upon having already gaided it to so favorable an opening of its record.

Very respectfully,

CHARLES T. HARVEY, Civil Engineer.

NEW YORK, December, 1889.

S. Doc. 231, pt 4-16

APPENDIX C.

To the Stockholders of the Nicaragua Canal Construction Company:

I take pleasure in presenting to you the report of the division engineer of our company, covering the work performed prior to October 8, 1890, and also the report of our chief surgeon upon the hospital service and the general health of the employés

of the company in Nicaragua.

The report of the division engineer is a very complete statement of the work done by our company, and will, I believe, satisfy all interested that the work during the past year has been pushed with great vigor and success. The health of the force during this time has been remarkably good, and there is no longer any fear that the work can not be successfully prosecuted because of climatic causes. I also have to report that our concession from Nicaragua was confirmed by the Nicaraguan Government early in November; a commission appointed by the President of Nicaragua having made a thorough examination of our work reported to the Government that we had complied with all the provisions of the concession, and had expended much more than the \$2,000,000 required to be expended during the first year. By the confirmation of the concession the rights of the canal company have been rendered permanent.

I am also able to report that the depth of water on the bar at Greytown is now 12 feet; having received a cable a few days ago from Chief Engineer Menocal to that effect. It is expected that the water on the bar will be deepened to 20 feet within the next four weeks, which will give us a sufficient depth of water for all vessels to enter the harbor and unload at the company's wharves. I therefore feel justified in congratulating the stockholders of the Nicaragua Canal Construction Company on

the present favorable condition of the work.

Yours, truly,

WARNER MILLER,
President.

NEW YORK, December 17, 1890.

REPORT OF THE DIVISION ENGINEER.

WORK PERFORMED BY THE NICARAGUA CANAL CONSTRUCTION COMPANY PRIOR TO OCTOBER 8, 1890.

SAN JUAN DEL NORTE, NICARAGUA, October 19, 1890.

SIR: I would most respectfully submit the following report of the work done by

the company in Nicaragua prior to this date.

The surveys for the final location of the entire canal line have been completed and the detail surveys of the sites of all embankments, dams, and locks are very nearly finished.

This survey has covered not only the one line selected, but any and all routes which gave any probability of being practicable, and in many cases covers a width of sev-

eral miles of country.

In addition to actual surveys the whole country has been thoroughly explored, so that every range of hills and every small stream has been examined to ascertain what, if any, bearing it might have upon the general problem of construction.

The south bank of the Rio San Juan has been carefully examined from Ochoa to the Rio Colorado, and extending back from the river several miles, to ascertain if there was any more favorable location for a dam than the Ochoa. Most of this region is a lagoon country, with low disconnected hills. No favorable site for a dam was found. The surveys for a railroad line from America to Ochoa, keeping above the flowage

line in the basin, have been completed. It was a difficult piece of location, as the hills bordering the basin are very steep and badly cut up with lateral drainage.

The cheapest and best line for the railroad would have been found on the crest of

the ridge bordering the valleys of the Deseado and Limpio, on the south side; but as this ridge is from 400 to 1,000 feet in height and from 1 to 3 miles away from the canal, it would be of no use for construction purposes. So we were forced to locate on the hillside, necessitating a great deal of very careful work to make a location that was at all practicable.

Another line has been located from America to the divide for a temporary road for constructing purposes, keeping in the valley of the Deseado. As the Deseado is a very crooked stream, with high hills coming down to the water on both sides at frequent intervals, it required a large amount of preliminary work to decide on the best loca-

tion.

Careful detail surveys have been made for the location of a dam and reservoir on the La Paz Creek, about 12 miles from this place; also for the pipe line to bring the water from that point to America. Several other streams were examined and careful surveys made to ascertain where the best and most economical supply could be obtained. All things being considered, the La Paz was found to be the most desirable.

At the points selected the stream has an elevation of 100 feet above tide and pours over a ledge of trap-rock between two high hills, forming an excellent site for a dam, which will raise the water to an elevation of 115 feet.

The stream in the dry season will furnish a supply of pure, cold water, amply sufficient for all the demands likely to be made upon it.

A careful survey of the site of the proposed harbor at San Juan Lagoon has been kept up during the past year. This has been necessary to keep a record of the rapid changes which have taken place, owing to the construction of the breakwater.

In order to make the proper studies of the work, it has been necessary to make new maps of the coast line for some distance on each side of the breakwater each week and also to show the depth of water ascertained by careful sounding, extending from the lagoon across both the inner and outer bar to deep water. One party has been constantly employed on the work.

A careful survey is now in progress, and nearly completed, of the country between the mouth of the Lajas and Brito for the location of a railroad, to accurately locate all the property lines, to decide where diversions of streams are necessary and prac-

ticable, and to locate sites for disposing of waste material.

All the surveys have been carried out in such a manner as to check the accuracy

of each other, and no errors have been allowed to go uncorrected.

The maps have been made with the utmost care to insure correctness. All work has been carefully checked by at least two men. I have no hesitation in saying that no important error can exist in the surveys or maps. I have never seen or known of

so exhaustive and accurate surveys and maps having been made for any public works.

These surveys have necessarily been slow and expensive, being prosecuted in a tropical forest where nothing could be seen at a distance of 50 feet, and where every step had to be preceded by a blow from a matchet to clear away the taugled mass of vines which everywhere presented itself, where all supplies had to be transported in canoes up streams filled with logs and then packed on men's backs for miles over hills so steep that a man can only climb up and down by holding on the small trees and brush, much of the time with the rain pouring in torrents, or through swamps where for long distances men have had to flounder through thick mud from their waists to their armpits in depth. To one who has never conducted such a survey no description can give an accurate idea of the slowness, difficulty, and disagreeableness of the work; but you, who have personally conducted so many surveys in this country, do not need any further comments.

At first it was attempted to house the engineering party in tents, but experience soon showed that they would not answer in this climate and they were abandoned, the parties living in shacks, thatched by palm leaves. Many thousands of dollars have been spent in building temporary camps for the accommodation of employés.

To ascertain beyond question what the character and cost of the work was to be, borings have been made at the site of all important works, such as dams, embank-ments, and locks as well as at the heavy cuts. Where there were no rocks this has been done with earth augers. Wherever rock was found the diamond drill was used. Specimens of all the different strata have been preserved for future reference. holes have been bored to the bottom of the canal, or to the bottom of the foundations of all locks, etc. Many of these holes have been from 200 to 300 feet in depth. By using the diamond drill, which takes out a solid core, we have been able to preserve specimens, so that contractors and others interested may at any time see exactly what the work will be. Owing to the difficulties in transporting heavy machinery, steam drills were impracticable, so all this work has been done by hand.

In May, 1889, a large force of engineers and foremen, with supplies and machinery, left New York and landed here early in June, to begin the actual work of construction, but owing to circumstances over which the company had no control, the work of construction did not assume important proportions for several months. In the mean

time much necessary work was done.

As the company had no quarters to accommodate a large force of men, a temporary camp and storehouse were constructed at Camp Francis, at an expense of several This was used until the new storehouse and quarters at La Paz thousand dollars. were completed.

Several other camps, Camp Folly, Camp B, No. 1, etc., were built at a large expense, as, also, was a temporary wharf, which had to be constructed before lumber could be obtained, and which, while they answered their temporary purpose, were

soon abandoned and entirely disappeared.

A steam snag boat was put to work clearing the streams -up which supplies must be taken-of logs and overhanging trees. These streams were filled with logs, the accumulations of ages, many of which were burled in sand and as heavy as lead. They could only be removed by the assistance of divers and a liberal use of dynamite.

The San Juanillo and Deseado were cleared so as as to give steam navigation to Camp Satisfaction, a distance of over 30 miles by river, and to Camp Virginia for canoes in ordinary water. From Camp Virginia to the divide, a distance of 5 miles, about, a good trail for packing was cut and foot bridges built across all the streams, so that supplies could be transported with certainty, though slowly, to the divide.

As it was proposed to obtain a temporary supply of rock for the pier from Silico Lake, the outlet of the lake, which was a very crooked stream, filled with grass and snags, was cleared out, straightened, and widened so as to allow tugs and lighters to pass from the San Juanillo to the lake; in many places points which were too sharp to allow a boat to pass around were blown off with dynamite and cleared away

The San Francisco was cleared above the junction of the Chanchos, and the Chanchos cleared to Camp Salinas. These streams were all in a very bad condition and

required much labor.

The necessity for a telegraph line to the interior soon became apparent. This was one of the first works undertaken, and was pushed through to Castillo, a distance of 60 miles, as soon as possible. This was a difficult line to construct, as the first 10 miles was through the deep swamp back of San Juan, where the clearing was difficult and the poles hard to obtain, where the wire and all other supplies had to be carried on the backs of men, who were wading in water from 1 to 4 feet in depth. Much of the way the water was so deep that poles could not be set in the

ground, and had to be fastened to stumps with wire as the only means of securing them. From the Divide to the Castillo the line is over a very rough country, was

an expensive line to construct, and is a difficult line to maintain.

During the summer of 1889 some preparatory work was done at Silico Lake and quite a sum of money expended in building a crib and sheet-pile wharf. No active work on the excavation of rock was done until July, 1890, when a force of men was put to work and all the rocks which have been used at the breakwater quarried. The quarry was only a mass of large bowlders imbedded in clay. This supply has been exhausted and the quarry abandoned. The rock was brought from the quarry to the pier in lighters, and as it all had to be handled twice after being quarried, it was very expensive.

During the summer of 1889 permanent buildings were begun and building con-

struction has been in progress ever since.

The following list gives the size and purpose for which the more important buildings were erected:

Buildings.	Dimen- sions.	Buildings.	Dimen- sions.
Chief engineer's, two stories. Office and officers' quarters, two stories. Dining room for officers Laundry at headquarters. Bath house for chief engineer. Bath house at headquarters. Outbuildings, etc. Doctors' residence, two stories. Officers' hospital, two stories. Laborers' hospital, two stories. Mess hall of patients Storeroom and quarters Dead house. Bath house, two stories. Outbuildings, etc. Laundry for hospital Storehouse at La Fe, three stories. Dry house. Quarters for employés.	20 40 20 20 20 30 16 8 10 8 22 41 47 30 48 20 93 30 54 19 25 15 27 11 11 15 37 39 139	Mess hall at La Fe Carpenter shop Paint and tin shop Oil house Storehouse Office and officers' quarters at railroad Mess room and kitchen at railroad Mess room and kitchen at railroad Laborers' quarters at railroad Laborers' quarters at railroad Laborers' quarters kitchen at railroad Tool house Tool house Tool house and blacksmith shop Water tank for locomotive Engine house. Officers' quarters at Camp Cheney Laborers' quarters at Camp Cheney Storehouse at Camp Cheney Blacksmith and machine shops at Camp Cheney	25 96

There is now in process of erection a machine shop, 108 by 54 feet, and a blacksmith shop and foundry, 28 by 52. Much of the machinery for a first-class machine shop is now here; also materials for a building for offices and quarters, 46 by 57, two stories, foundations of which are completed. These are all good, substantial buildings, roofed with iron and painted.

The storehouse of La Fe has a substantial wharf, 30 by 50 feet, with shears and

tackle for unloading heavy freight.

Work in the canal clearing was begun in January, 1890, and about 11 miles chopped the full width of 486 feet; a large part of this was burned during the dry weather of April. The chopping through the swamp was done in January, when there was a rainfall of 64 inches, and the water was very deep in the swamp. This could have been done at a less cost at a later date, but it was felt that it must be done then to allow the first dry season to be taken advantage of for burning. This was the most difficult portion of the line to clear.

As all the water in the vicinity of San Juan del Norte is contaminated by decaying vegetable matter, it was decided to seek a pure supply in the highest hills back

of the swamp.

After a careful examination of several sources, the Caño La Paz was finally selected. At a point about 10 miles from here this stream flows over a bed of solid trap-rock at an elevation of 100 feet above tide. At this point the valley is narrow, being shut in by high hills, affording an excellent site for a dam. The dam will be 15 feet in height, and will raise the water in the reservoir 115 feet above tide. With this elevation the reservoir will contain a supply sufficient for several weeks for all the demands likely to be made upon it.

The water will be brought to this point in a steel pipe 8 inches in diameter. All of the materials are here, including gates, sluices, screens, valves, connections, etc., and 15 miles of pipe. The site of the reservoir is cleared, and the laying of the pipe is only waiting for the railroad to reach that point, as the pipe for most of the way will follow the railroad.

In 1889 a tramway was constructed from La Paz to the hospital, a distance of a mile and a quarter.

In June, 1890, a railroad was begun across what has been considered the impassable swamp, between the San Juan Lagoon and the Benard Lagoon. Soon after beginning, heavy rains set in, and the swamp was flooded to a depth of from 2 to 4 feet. The track had to be laid in advance, and the dirt for filling brought out by train. This was done by building up a corduroy of logs, and laying the temporary stringers running lengthwise of the track, on which the ties were placed and the track laid. Most of this work for a distance of 2 miles was done in water 3 feet deep, and much of the work for 4 miles more in water 2 feet or more in depth, making a total of 6 miles of swamp work. After the rails were laid the trains of dirt were pushed out and unloaded along both sides with a ballast unloader, and as the bank was raised above the water the track was raised and put into shape on a solid roadbed of sand. In order to make the road safe at all times, the grade has been put above the highest known water. As this could not be done at once there has been a large force of men at work raising, lining, and stamping the track since construction began. The materials for the road have been excavated from the entrance of the canal by a steam shovel, capable of handling 1,300 yards of dirt in a day, and hauled to the point needed by trains of flat-cars, carrying about 240 yards to a train. There is now about 4½ miles of main track laid, extending to the crossing of Benard Creek, at B. J. This bridge is finished and ready for the track to be laid. The bridge is 180 feet in length. Considerable difficulty was experienced in getting a foundation, and some of the piles were driven to a depth of 90 feet below water.

Beyond B. J. the clearing is done and the grading well advanced to a point 10 miles from Greytown. The materials for all of this and 7 miles more are all on hand, except a portion of the ties. In addition there are 14 miles of side track laid and a

considerable amount of working track.

The road is well equipped for construction work, having two powerful locomotives, one weighing 36 tons and one 44 tons, and a heavier and still more powerful one is now on the way here. We have in use fifty cars of various kinds, one steam shovel,

a ballast unloader, lifting jacks and all appliances necessary.

At the terminus of the railroad a fine wharf, 30 by 264 feet, has been built, all the timber for which was creosoted in the best possible manner. This wharf is thoroughly protected by fender piles and wales, and is built to sustain any load which may come upon it. It is provided with a derrick and steam-hoisting eugine, and has a railroad track laid on it so that materials may be loaded directly from the lighters on the cars by steam. Over 100 feet of this wharf is iu 12 to 14 feet of water.

A breakwater for the protection of the entrance to the harbor, now being constructed at the eastern terminus of the canal, was begun in December, 1889, and has already been built out a distance of 715 feet into the sea, and is now being continued

and will be carried out to a distance of 1,900 feet.

The breakwater is 42 feet in width, and is constructed by driving piles in bents 8 feet apart, each bent having twelve piles capped with a 14 by 14 inch timber drift-bolted to top of four piles, on which it rests, and firmly secured to the remaining eight piles in the bent with screw bolts. On top of the caps, and firmly bolted to them, there are eight stringers of 12 by 12 inch timber, running lengthwise of the pier. Each bent is thoroughly braced transversely by six diagonal pieces of 4 by 10 inch timber spiked to the opposite side of the piles. Along each side of the pier piles are put in between the bents as closely as they can be driven, thus forming a solid wall of piles along each side of the pier. The spaces between the rows of piles running lengthwise of the pier are filled with brush mattresses, about 2 feet in thickness, which are sunk into position by being loaded with rock. Alternate layers of brush and rock are being put on until an elevation above high water is reached. As this is being filled in, the waves bring sand and deposit it so that the whole space is thoroughly filled with a composite mass of brush, rock, and sand, through which it is impossible for worms to penetrate, and by its weight making a structure of great strength and stability. To insure the greatest durability, none but creosote timber, containing 16 pounds of oil to the cubic foot of timber, is now being used.

For the purpose of handling materials economically, a standard gauge railroad track has been laid as fast as the work progressed, and a substantial railroad built from the pier to deep water in the lagoon, a distance of a quarter of a mile. This road crosses two arms of the lagoon on substantial pile bridges, and at the terminus has a wharf with a derrick for discharging materials which are brought from the main land in lighters. There has also been built a wharf 20 by 30 feet, with storage

bins, for the reception of coals.

As the pier advanced the waves were deflected, so that they began to cut in behind the break water and threatened to cut the buildings off from the pier. To prevent this a wing wall of sheet piling has been driven along the channel from the pier to the open lagoon, a distance of 700 feet, effectually preventing any further tendency to cut away the beach. The bottom of the sea beach here is very hard sand, through which it would have been almost impossible to drive piles by the ordinary method; this became evident soon after starting the work, and the experiment of sinking them

with a water jet was tried; this proved eminently successful, affording a quick and economical solution of the problem. As the pier advanced the sand was filled in on the east side, so that there is now solid land out nearly the entire length of the breakwater, adding greatly to the strength and safety of the structure. On the west side there was a bench 100 feet in width and 6 feet in height; this the sea has cut through, giving an opening of about 600 feet in width and a channel with 64 feet of water at low tide, through which all the lightering to and from the vessels has for months been done. This opening and maintaining of a channel, without dredging, is the best possible proof of the final success of the plan adopted for the formation of a harbor.

The bar in front of the San Juan lagoon has long been known as one of the most dangerous places on the coast in rough weather, and it is with no small satisfaction that I say the breakwater has been carried forward through the heavy surf, which prevails here during several months of the year, without even stopping on account of weather, and without an accident of any kind, or the loss of a life. The dredging plant, purchased of the American Dredging Company, consisting of several dredges, steam tugs, lighters, contents of a machine shop, etc., have begun to arrive, there being already five dredges, nine lighters, and several hundred tons of machinery and supplies delivered here. The dredges are being put in order as fast as possible, one being already at work cutting a channel across the bar to deep water outside.

A contract has been let to the North American Dredging and Improvement Com-

A contract has been let to the North American Dredging and Improvement Company of New York for dredging 1,500,000 cubic yards in the proposed harbor at the eastern terminus. This company has now one dredge and a large scow, and a large plant of dredgers, scows, and tugs now on their way here.

A contract for clearing the right of way from Lake Nicaragua to the Pacific has been let, and work will soon begin on this portion. A large amount of supplies, tools, and machinery, consisting of steam boilers, rock drills, hoisting engines, railway appliances of all kinds, etc., are now on hand and ready for work.

In all the work done the aim has been to have everything first class, and no expense has been spared to secure this end. In many cases inferior material might have been used at a great saving of first cost, but this has not been done.

All the timber of the breakwater, the railroad wharf, and permanent bridges, is creosoted in the best possible manner. Creosoted railroad ties are being brought

creosoted in the best possible manner. Creosoted railroad ties are being brought from the United States at a cost of about four times what ties of native wood could be bought for. The capacity of the creosoting works to its utmost.

All the employes, both officers and laborers, are housed and fed by the company. It would undoubtedly seem to be cheaper not to do this, but laborers would not receive as good food nor as comfortable lodging, and sickness would be the result.

At an early date an excellent hospital was established, where all the company's employés are treated free of cost. This, in connection with the care taken of the employés, has kept the sick list down to a point which would be considered excellent The death rate among laborers has been remarkably small, and there in any climate. has not been a death among the officers from sickness.

In conclusion, I would call attention to the great difficulty under which the work

has been done.

In times past it was no uncommon thing for vessels laden with only ordinary packages of merchandise to leave here without discharging their cargoes on account of the unprotected anchorage. We have been compelled to unload locomotives, steam shovels, pile-drivers, railroad cars, etc., in packages weighing as high as 15 tons, receiving them on board lighters in an entirely unprotected sea 2 miles from land, and bringing them ashore, where they have been taken from the lighters and set up without the aid of powerful derricks, such as are commonly used for such work.

The country along our line was entirely without highways, or any means of communication. From the small settlement of San Juan del Norte to Ochoa the country

was an unknown and uninhabited wilderness.

The company has gone to work in an unostentations, systematic manner to accomplish the great work before them, and may well take pride in what has been accomplished.

Very respectfully,

FRANK P. DAVIS, Division Engineer.

A. G. MENOCAL, Esq., Chief Engineer, Nicaragua Canal Construction Company, America, Nicaragua.

SUMMARY OF HOSPITAL SERVICE.

NICARAGUA CANAL CONSTRUCTION COMPANY, San Juan del Norte, Nicaragua, November 1, 1890.

The work first undertaken by the above company was simple surveying, carried on by small parties of engineers, who were constantly changing the location of their During this period there was no regular organization of the medical department, and no hospital service. The health of the limited number of officers and men was cared for by three assistant surgeons, who traveled back and forth between the different camps in their different sections.

In the summer of 1889, much of the preliminary work having been completed, the number of employes was considerably increased, and the work more concentrated at

several points, so that it became possible to inaugurate a hospital service.

At Greytown the hospitals of the company are located on the beach, about three miles from the town, and two medical stations have been erected on the San Juanillo and Deseado rivers. At the hospital two surgeons were employed, and also one in

It has been the policy of this company to increase the hospital accommodations and number of the surgical staff as rapidly as was found necessary, either by the increase of the number of employes at work or from the possible increase of the percentage of sickness. A style of buildings has been adopted, which being made with corrugated iron sides and roofs, are practically exempt from danger by fire, and less liable than wooden buildings to become infected.

At present the company has at work about 2,000 men, and through the medical

department furnishes the following accommodations:

(1) Headquarters hospital (on the beach at Greytown).—This hospital consists of three main buildings and nine smaller ones, as shown by the accompanying ground plan. No. 1 is occupied by the chief surgeon's office, the hospital office, and living quarters for the house surgeon and his assistant surgeons, the druggist, and chief surgeon's clerk. No. 2 has an operating room, arranged for antiseptic operations, and used solely for such cases; an examining room for the treatment of out patients, and examination of those desiring admittance to the hospital, etc.; a pharmacy, well stocked, and eight wards for the accommodation of officers and mechanics. these wards are set aside as private rooms for the higher officials, or for cases requiring perfect quiet. No. 3 contains two large wards on each floor; one floor being used for surgical, and the other for medical cases among the laborers. No. 4 is divided into two large dining halls for the convalescent officers and laborers, respectively. No. 5 holds two closets and bath rooms for the use of officers; running water and shower baths being provided. No. 6 is used on the lower floor as a druggist's store-room, while the upper floor is occupied by sleeping apartments. No. 7 has three rooms, viz., kitchen, steward's storeroom, and pantry. Nos. 8, 9, 10, 11, and 12 are respectively used as a drying house, laundry, barracks, deadhouse, and stables.

The wards throughout the hospital are furnished exactly as those in the best regulated hospitals of New York, while, owing to the mild climate, we have been enabled to provide more perfect ventilation than is possible in our large city hospitals.

A corps of well-trained nurses, under charge of a head nurse, care for the patients night and day, while the kitchen and general work about the buildings are looked after by a competent steward.

A house surgeon, two assistant surgeons, and an assistant druggist are employed

here constantly. The capacity of this hospital is 125 beds.

An efficient ambulance service is connected with this hospital,
(2) Temporary hospital No. 1 (6 miles up the line of railway now building).—We have erected a building, 20 by 50 feet, for use as a temporary or emergency hospital, the object being to treat here mild cases from among the employés further up the line, and to furnish more immediate relief in cases of accident before forwarding patients to the headquarters hospital.

This building contains 30 beds, a pharmacy, and examining room. One assistant

surgeon, an assistant druggist, and two nurses are located here.

(3) Medical station.—In addition to the hospital, we have established three medical stations; one in the Deseado Valley, one in the San Francisco Valley, and a third on the western division, in each of which is stationed an assistant surgeon. The duty of these doctors is to visit periodically all camps in the station, and, after treating such mild cases as they may find, to forward those requiring hospital treatment.

(4) Druggist's department.—The druggist is stationed at the headquarters hospital, and receives and fills requisitions from the different camps and stations. He also has oversight of the pharmacies of both hospitals. Every camp, irrespective of its size and importance, is kept constantly stocked with a good assortment of the more common household drugs, while each camp, at which a surgeon is stationed, has a good pharmacy.

(5) Sanitary work.—It has been the policy of the company to prevent sickness as far as possible, and every surgeon is invested with the authority of a sanitary inspector in his station, and is expected to report every ten days to the chief surgeon as fully upon the sanitary conditions of the different camps, as upon matters more strictly medical.

At Greytown, during the summer months, every vessel arriving at the port is visited by the chief surgeon, or one of his staff, before communication with the shore is

allowed.

The health of the employés has been very good. The care exercised by the company in looking after those actually ill has been followed by highly gratifying results. Only 1½ per cent. of those actually in the hospital have died, and this percentage includes all cases, whether due to accidents involving sudden death, or deaths from phthisis pulmonalis, contracted before entering the company's service.

Of those admitted to the hospital, suffering from diseases contracted in the country, only two-thirds of one 1 cent. has died. Diseases met with are not, as generally supposed, entirely of a malarial character, for only 51 per cent. of the cases treated

during the three months past have been due to fever of any form.

Among the remaining, one finds about the same variety of troubles as in a more

temperate climate.

J. EDWARD STUBBERT, Chief Surgeon.

APPENDIX D.

THE MARITIME SHIP CANAL OF NICARAGUA.

INTEROCEANIC COMMUNICATION.

The question of interocanic communication, across the narrow neck of land which connects the North and South American continents, is one that has commanded attention since the discovery of the Western World. Indeed, it was the first question which that discovery suggested for solution; for this narrow neck of land is the only, but effectual, barrier which interposed to prevent the realization of Columbus's theory that the East Indies might be reached by sailing westward from Europe.

A history of the various attempts made to solve the problem, from the time of

Charles V. of Spain until the present, would fill volumes and would be of greatest interest, but is foreign to the purpose of this pamphlet, which is to present as con-

cisely as possible the practical results which thereby have been attained.

On the 15th Ma ch, 1872, a Commission, consisting of Brig. Gen. A. A. Humphreys, Chief of Engineers U. S. Army; Prof. C. P. Pattterson, Superintendent U. S. Coast Survey, and Admiral Daniel Ammen, Chief of Bureau of Navigation, was appointed by the President of the United States, in compliance with a resolution of the Senate, to consider the subject of communication by canal between the waters of the Atlantic and Pacific Oceans across, over, or near the isthmus connecting North and South America.

After a long, careful, and minute study of the several surveys of the various routes, and after additional surveys made in connection therewith, especially of the Panama and the Atrato Napipi routes, the Commission reported February 7, 1876, unanimously, that the route from San Juan del Norte (Greytown) by way of the San Juan River, Lake Nicaragua, and the valleys of the Rio Del Medio and Rio Grande to the port of Brito on the Pacific coast, possesses greater advantages and offers fewer difficulties than any of the other routes shown to be practicable.

The different routes, surveys for which had been conducted through a series of years by naval officers under the instructions of the Navy Department, at this time con-

sidered and reported upon by the Commission, were as follows:

Named geographically from North toward the South the routes considered were:

1. The Isthmus of Tehnantepec.

2. The Nicaragua route via Lake Nicaragua.

3. The Isthmus of Panama.

- The San Blas and Chepo route.
 The Caledonia Bay and Morti routes.
- 6. The Caledonia Bay and Sucubti route.
- 7. The so-called "Du Puydt" route. 8. The Cacarica and Tuyra route.
- 9. The Atrato and Fernando route.
- 10. The Atrato-Napipi route.

Of the numerous projects for interoceanic communication by canal many had been proven impracticable and these only were deemed worthy of consideration. Exactly how many different routes had been proposed in 1876 can not be stated, but Admiral Davis in his work published in 1866 names nineteen as then suggested.

At the International Congress, convened in Paris in the year 1879 to determine the location of an interoceanic canal across the American Isthmus, the merits of the Nicaraguan route were ably advocated by the delegates from the United States Government, Admiral Daniel Ammen and Civil Engineer Men real, and by other engineers of high repute. The correctness of the arguments then made in favor of this route, as well as of the report of the commission already mentioned has, since that time, been practically demonstrated. The only reason for the adoption of the Panama route by the congress was that it was believed that a sea-level canal could be there constructed. The abandonment of the sea-level theory, and the adoption of locks in 1887 has proven the fallacy of the theory.

CONCESSIONS AND ORGANIZATION.

In April, 1887, the Nicaragua Canal Association secured from the Government of Nicaragua a concession granting exclusive privilege to excavate and operate a maritime slip caual across its territory, from the Atlantic to the Pacific Ocean, for the unobstructed and commodious passage of vessels of the same size as the large steamers used for ocean navigation in Europe and America, with all privileges necessary to the advantageous and efficient prosecution of the work.

In pursuance of the conditions of the concession, surveys were commenced in December, 1887, and were continued by a numerous and competent corps of engineers until the final location of the route was determined. These surveys have been carefully examined and approved by a board of consulting engineers, and by the Nicaraguan Government, and they are the basis of all work done since the organization of the company of execution.

In February, 1889, the Congress of the United States granted to Frederick Billings and his associates, as incorporators, a charter under the name of The Maritime Canal Company of Nicaragua, with a capital of \$100,000,000, and the right and authority to increase the same to \$200,000,000.

In May, 1889, the incorporators organized under the provisions of their charter, and on the 25th of that month dispatched to San Juan del Norte, by the steamer Alvena, the first expedition for construction.

On the 3d day of June, 1889, the company began the preliminary work of construc-

tion at San Juan del Norte (Greytown).

On the 8th day of October following it commenced the work of excavation, and the Government of Nicaragua has officially recognized and declared by decree that the construction of the canal was formally commenced, in accordance with the terms of the concession, on the said 8th day of October, 1889.

WORK ACCOMPLISHED.

Since the 3d of June, 1889, the company has established permanent headquarters at San Juan del Norte, erected large storehouses, hospitals, dwellings, and other buildings. It has accumulated there several miles of piping and other material for the construction of an aqueduct to supply the lower portion of the canal and the harbor with pure fresh water. It has cleared of obstructions to navigation parts of the San Juanillo, the Deseado, the San Francisco, and other navigable streams. It has built over a mile of broad-gauge railroad, constructed over 70 miles of telegraph and telephone lines, and cleared several miles of the route of the canal between the harbor and the first lock in readiness for dredging. It has landed at San Juan del Norte large quantities of machinery, tools, lumber, piles, creosoted timber, boats, steam launches, lighters, and other material and equipment necessary in the work of restoring the harbor and for use in construction.

The important work of building the breakwater, to protect the harbor entrance from the effects of shifting sand on the coast, was commenced about the middle of December. The breakwater is now built out 600 feet, with a width of 40 feet, and the depth of water reached is about 15 feet. The result thus far attained by this work is most satisfactory, even exceeding the promises of the chief engineer in its effect upon the deposit of sand and upon the action of the ocean on the protected

area.

DESCRIPTION OF COUNTRY.

The Republic of Nicaragua occupies a part of the American isthmus extending from about 10° 70' N. to 15° N. latitude and from 83° 20' W. to 87° 40' W. longitude.

Its shores were first seen by Europeans in 1503, when Columbus in his fourth voyage rounded the cape at its northeast angle, which he called Cape Gracias & Dios, the name it bears to-day, and then coasted south along its entire eastern shore. In 1522 Gil Gonzales d'Avila discovered its Pacific coast, and penetrated to the lakes and to the cities of its Indian inhabitants. Previous to this the country was undoubtedly occupied by a numerous population of Aztecs, or nearly allied people, as numerous specimens of pottery, gold images, and implements found about the lakes and their idenders occurred to the country was undoubtedly occupied by a numerous specimens of pottery, gold images, and implements found about the lakes and their islands seem to demonstrate.

In 1529 the connection of the lakes with the Caribbean Sea via the River San Juan was discovered, and during the last quarter of that century considerable commerce was carried on by this route between Granada and other ports of Lake Nicaragua and

the cities of Nombre de Dios, Carthagena, Havana, and Cadiz.

In 1823, Nicaragua with her sister colonies, threw off the rule of Spain and formed a confederation; this confederation was dissolved in 1839, and since then Nicaragua has conducted her own affairs.

In shape, Nicaragua is an irregular quadrilatera.. Its longest side extends from the Gulf of Fonseca northeasterly to Cape Gracias & Dios., 200 miles. From Cape Gracias & Dios south to the month of the Ric San Juan, the Caribbean coast line is 250 miles long; thence nearly due west across the Isthmus to Salinas Bay, on the Pacific, is 120 miles. The Pacific coast line, extending northwest, is 160 miles long. The area of the country is 51,600 square miles. In point of size it stands first among the Central American Republics. It is larger than either the State of New York or the State of Pennsylvania; it is about the size of Denmark, Belgium, the Netherlands, and Switzerland, combined; and is one-fourth as large as France or Germany. Its population is about 400,000.

The principal cities are-

li de la companya de	habitants.
Leon	30,000
Granada	
Managua	
Rivas	
Massaya	
######################################	14,000

The Gulf of Fonseca and Salinas Bay, at the northwest and the southeast points of the Pacific coast of Nicaragua, are two of the finest and largest harbors on the entire Pacific coast of Central America. About midway between them is another fine harbor, that of Corinto; and at various places along the coast, at Tamarindito, Brito, and San Juan del Sur, are good anchorages, secure in all except heavy southwest On the Caribbean coast there are no natural harbors suitable for large vessels, but there are numerous lagoons, bights, and river mouths, affording the best of shelter for coasting vessels and steamers.

The central portion of Nicaragua, from north to south, is occupied by the main Cordillera of the isthmus, which is here greatly reduced in altitude and consists of a confused mass of peaks and ridges with an average elevation of scarcely more than

1,000 feet.

Between this mountainous region and the shore of the Caribbean Sea stretches a low, level country covered with dense forests and drained by several large rivers.

West of the mountain zone is a broad valley extending from the Gulf of Fonseca, southeasterly, to the boundary of Costa Rica—in this valley are located the two lakes, Managua and Nicaragua. The latter, over 100 miles long and from 30 to 60 miles wide, is worthy of being called an inland sea; Lake Managua, which flows into it from the northwest, through the river Tipitapa, is 30 miles long and about 20 miles wide.

Between these lakes and the Pacific is a narrow strip of land from 30 to 12 miles in width, stretching from the magnificent plain which surrounds the cathedral city of Leon, in the north, to the rolling fields of indigo and maize and the caeao plantations which environ the garden city of Rivas, in the south. The beauty, fertility, and salubrity of this region is the theme of universal praise; its undulating surface becomes hilly near the Pacific and within a few miles of the ocean breaks into the coast range, from 500 to 1,200 feet in height. Looking from the summit of one of the western hills the garden of Central America, containing the city of Rivas and half a dozen small towns and villages bowered in orange groves and palms and surrounded by plan-

tations of sugar, indigo, and cacao, lies spread below.

The drainage of the lakes and of all this region passes down the Rio San Juan and discharges into the Caribbean Sea at San Juan del Norte, the southeast limit of the country. On the western shere of Lake Nicaragua nearly opposite the head of the San Juan is the lowest pass across the backbone of the New World, from the Arctic Ocean to the Straits of Magellan.

CLIMATE.

In its climatic features Nicaragua is exceptionally favored. Lying between the elevated mountain masses of Costa Rica on the south and of Honduras on the north, the average elevation of its own mountains is hardly 1,000 feet; it is thus the natural thoroughfare of the northeast "Trades," which rush in from the Caribbean Sea, sweep across the eastern slopes, break the surface of its lake into sparkling waves and then disappear over the western hills, aërating, cooling, and purifying the entire country, destroying all germs of disease, and making Nicaragua the healthiest region in

On the Atlantic slope rains are frequent, but by the time the wind reaches the lake basin its surplus moisture is gone, and as the drier land raises its temperature it absorbs instead of depositing moisture. Hence a difference in climate between the east and west sides of the country, the latter being, in the dry season, from November to May, almost without rain. Squier says of this season:

The temperature is less, the nights positively cool and the winds occasionally

chilling. The sky is cloudless and trifling showers fall at rare intervals. " " This season is esteemed the healthiest of the year. Its effect is practically that of a north-

ern winter."

The temperature of Nicaragua is equable. The extreme variation recorded by Childs was 23°; observed near the head of the San Juan in May, 1851. It may be said in general terms, that the temperature rarely rises above 90° Fahr. or falls below 70° Fahr. The average temperature, as observed by the latest surveying party on the San Juan River, was 73° at 6:30 a. m., and 82° at 2 p.m. The equatorial cloud belt, following the sun north in spring, is late in reaching Nicaragua, and the wet season is shorter than in regions farther south. The average rainfall west of the lakes for nine years was about 64½ inches. On the Caribbean coast it is greater.

The scenery of the eastern portion of Nicaragua is of the luxuriance peculiar to all tropical countries. In the vicinity of the lakes and between them and the Pacific, the isolated mountain peaks which bound the plain of Leon on the northeast, the mountain island of Ometepe and Madera, in Lake Nicaragua, the towering masses of the Casta Rican volcanos and the distant blue mountains of Segovia and Matagalpa seen across the sparkling waters of the lakes, charm the eye with scenic beauties unsurpassed in grandeur, variety, and richness of coloring in any other country.

PRODUCTS.

The products of Nicaragua are numerous and valuable, although the resources of the country are as yet almost entirely undeveloped. In the hilly region of the northwest coffee is grown in large quantities. Brazil wood grows in abundance in the forests, and plantations of sugar, indigo, and cacao abound everywhere between the lakes and the Pacific. Potatoes and maize thrive in the uplands of Segovia. The Chontales region, east of the lake, is a grazing country supporting thousands of cattle. Farther east are the gold and silver mining districts of La Libertad, Juigalpa, and others not so well known. The dense forests which cover portions of the country are rich in rubber, cedar, mahogany, and dye woods, and trees and plants, too numerous to mention, of medical and commercial value.

All tropical fruits grow in abundance, and the rich banks of the rivers of the eastern slopes will yield almost incalculable harvests of plantains, bananas, oranges,

pineapples, and limes.

Game of numerous varieties—deer, wild hog, manatee, tapir, wild turkey, ducks, qual, etc.—is plentiful in the forests, and fish abound in the rivers.

LOCATION OF ROUTE.

It is through this country, salubrious, fertile, beautiful, and rich in natural resources that the Maritime Canal of Nicaragua is to be constructed. Its route, as determined by surveys, accepted and approved by the Nicaraguan Government, traverses the lowest depression of land in the Cordillera, between the Arctic Ocean and Cape Horn. The depression is occupied by the large inland sea of fresh water, Lake Nicaragua, and by its outlet, the San Juan River. The western border of the lake is within 12 miles of the Pacific coast, from which it is separated by a low divide of 42 feet. Its surface is 110 feet above sea level. Its drainage is toward the Atlantic, through the San Juan River into the Caribbean Sea. These great natural features are to be utilized in the proposed canal. The lake is 100 miles long, has an average width of 45 miles and a variable depth, reaching in some places 150 feet. The San Juan River is already navigable for river and lake craft throughout most of its length.

WORK PROPOSED.

The details of work as proposed are briefly, a breakwater at San Juan del Norte and the deepening of the harbor, dredging thence to the westward 9½ miles through alluvial ground; then a lock of 30 feet lift. At 1½ miles beyond there will be a second lock of 31 feet lift, and a dam across the small stream Deseado, above which will be two basins, separated by another dam and a third lock of 45 feet lift, affording 5 miles of free navigation; then a rock cut about 2½ miles in length, followed by 12 miles of free navigation in the valleys of two small rivers, the San Francisco and the Machado. Here the water will be raised by dams and embankments, forming basins which will connect directly with the San Juan above a large dam across that river, which will raise the surface level in the river and lake and secure additional free navigation of 64½ miles in the river and 56½ miles across the lake. On the western side of the lake the canal enters a cut of slight depth, in earth and rock, 9 miles long, issuing thence into the Tola basin, with 5½ miles of free navigation obtained by damming the small stream, the Rio Grande. At this dam a series of locks lowers the level 85 feet, and the canal proceeds in ex-

cavation down the valley of the Rio Grande, a distance of 2 miles, to the last lock, a tidal lock of 20 to 30 feet lift, below which the canal enters the upper portion of the Harbor of Brito, 1½ miles from the Pacific Ocean, where a breakwater will be constructed, enlarging and making more commodious the present harbor.

GENERAL FEATURES OF WORK.

The general features of the work as determined by the surveys and studies previously referred to are as follows:

	East side.	West side.	Total.
Sea-level canal, dredged in earth, from the coast Rock thorough onts, with or without earth on top Earth thorough cuts, no rock Earth with layer of rock at bottom	Miles. 9. 297 2. 833 2. 146 . 354	Miles. 0.57 6.41 2.42 2.00	Wiles. 9. 867 9. 243 4. 566 2. 354
Total cutting, apart from looks	14.630	11.40	26.030
Locks, three on each side. Natural surfaces, flooded to 30 feet depth or over, requiring neither dredging nor excavation. Plooded surfaces, requiring earth dredging only to make 30 feet depth of water. Channels in lake and river requiring excavation under water. Natural courses or artificial basins having 30 feet or over of water and requiring neither dredging nor excavation. Total route from ocean to ocean.	. 379 13. 649 2. 70 35. 00 43. 67	. 380 4. 53 . 74 2. 28 40 09	3. 440 37. 280 83. 760 169. 448

SUMMARIES.

	Miles.
Natural and artificial water ways, needing neither dredging nor excavation	101.999
Canal proper, thorough cuts	26. 030
Excavation below surface of water to give 30 feet depth of water, chiefly earth	40. 720
Six locks	. 759

	and the same of th	
Total route from ocean	to ocean 1	69. 448

	East side.	West side.	Total.
Navigation in canal and looks			Miles. 26, 789 21, 619 64, 54
Free navigation in Lake Nicaragua			56. 50 169. 448

The entire route has been carefully located and cross-sectioned and the computed quantities of excavations, fills, and embankments as determined by these studies are as given below. Borings by rock drills, to the depth of necessary cuttings, have been made throughout the entire length of the divide cuts, and the material is everywhere found to be of rock that will hold well the slopes proposed.

0		-	-	å	24	2	-	
0	и	a	n	ĕ	86	v	a.	٠

Cubic verde

Earth dredging for canal, all below sea level Earth excavation, all above sea level Rock excavation Rock excavation, under water.	21, 773, 810 13, 452, 938
Total excavation, earth and rock	65, 625, 354
Rock fills, for dams and breakwater taken from divide cuts Earth fills, taken from excavations. Concrete Stone pitching.	4, 033, 810 6, 105, 380 615, 651

It is estimated that construction can be completed and the canal ready for operation by 1897.

The minimum depth of water throughout the canal will be 30 feet.

With the exception of the rock cuts in the eastern and western divides, excavation will be at all points wide enough for two ships to travel in opposite directions. Through the basins and in the lake and river San Juan vessels can pass each other and navigate with entire freedom.

CAPACITY FOR TRAFFIC.

The capacity of the canal for traffic will be limited only by the time required to pass a lock. On the basis of 45 minutes as the time consumed in the operation and that but one vessel will pass in each lockage, the number of vessels which may pass through the canal in one day is calculated at 32, or, in one year, 11,680; which, based on the average tonnage of vessels going through the Suez Canal, will give an annual capacity for traffic of over 20,000,000 tons, but the locks are 650 feet long and 70 feet wide in the chamber, and two vessels, each of 2,000 tons displacement, may be passed through on each lockage, thus largely increasing, if not doubling, the estimated capacity. The present traffic of the Suez Canal is about 7,000,000 tons per annum, with a transit of about 3,500 vessels.

The lowest flow of the lake in the dry season is 11,390 cubic feet per second. Its average discharge is 14,724 cubic feet per second, or in one day 1,272,530,600 cubic feet. The water required for 32 lockages in one day is 127,400,000 cubic feet; consequently the lake supply alone is ten times the maximum needed for the operations

of the canal.

The time consumed in passing from ocean to ocean, by steamers, is estimated at twenty-eight hours, which includes one hour and twenty minutes for possible deten-

tions in narrow cuts.

That the capacity of the canal, and the sufficiency of the supply of water for lockage, are fully adequate to any demands likely to be made by commerce for some time to come is evident. In this connection some estimate of the probable business of the canal is proper. The great increase of navigation by steam during the past twenty years is an important factor in this problem. The substitution of steam for sail since 1870 is indicated in the following tables:

Shipping tonnage of the world.

Year.	Sail.	Per cent.	Steam.	Per cent.
1870	13, 868, 000	88	1, 918, 000	12
	15, 002, 000	721	5, 644, 000	27½
	9, 497, 000	45	11, 552, 600	55

This, however, is not a proper indication of the comparative increase for, owing to the greater speed of steamers as compared with sailing vessels, their capacity for transportation is multiplied five fold, and the comparison by percentages then appears as follows:

	1870.	1881.	1888.
Sail transportation Steam transportation	Per cent. 59 41	Per cent. 341 651	Per cent. 14 86

	1871.	1881.	1888.
Number of vessels	765	2, 727	3, 440
	761, 467	4, 136, 779	6, 640, 834

These figures are indicative of the eagerness with which commerce avails itself of every facility that expedites the movement of commodities and shortens the time of transportation, whether it be by rapidity of locomotion or by lessening of distances, thereby lessening its cost They also indicate the wonderful growth of commerce under favoring circumstances.

Under such circumstances the commerce of the world, as indicated in the first table, has increased threefold in eighteen years. The effective tennage, allowing fivefold

for steam, was-

	Tons.
1870	23, 458, 000
1881	
1888	67, 257, 000
	0.,20.,000

If it increases in the same ratio for the next seven years in which it advanced between 1881 and 1888, it will in 1895 amount to 105,000,000 tons.

TONNAGE TRIBUTARY TO THE CANAL.

From statistical records it appears that the number of ships trading from our Eastern ports and from Europe to the North and South Pacific was, in 1879, 2,647, with an aggregate tonnage of 2,671,886 tons.

Eight years later, in 1887, statistics show the following facts: Tons. Trade across the Isthmus of Panama..... 1, 217, 685 Trade between Atlantic and Pacific ports of the United States. . 145,713 Trade between Atlantic ports of the United States and foreign countries west of Cape Horn ... 752, 585 Trade between Pacific ports of the United States and foreign countries east of Cape Horn. 879,844 Trade around Cape Horn of European countries (Austria, Denmark, Nor-1,471,399 way, Sweden, and Russia, not included, as statistics are not accessible). Trade of British Columbia with Europe..... 39,818

4, 507, 044

Excepting the trade across the Isthmus, this is all trade around Cape Horn. No estimate is made of the trade around Cape Good Hope, much of which would seek the canal if it were open; nor is any estimate made of the trade which, rather than break bulk for transport by the transcontinental railways, would continue on shipboard when the question of the long voyage around either cape had resolved itself into that of a passage through the canal.

These statistics show that the traffic which would naturally seek the canal was, in 1879, 2,671,856 tons, and that it had increased in 1887 to 4,507,044 tons, the percentage of increase being nearly 69 per cent. A similar increase in the next eight years would make it in 1895, 7,616,904 tons. And there is no reason why such an increase should not be realized; in fact, every reason exists to expect it; the industrial development of our Pacific States, the settlement of Alaska, the growing importance of Chili, and, not least of all, the evident disposition of the enterprising and wealthy Empire of Japan to become a dealer in the markets of the world, assure it.

In the foregoing estimates no account whatever is taken of vast sources of traffic, such as ores and timber, of which practically there is nothing carried now, but which will furnish an enormous tonnage as soon as facilities for transportation are provided.

The natural growth and development of the Pacific States and Territories will furnish thousands of tons of traffic to the canal for the hundreds that exist under present conditions. The lumber trade of Oregon and Washington presents the most notable development of any line of commerce that can be cited. In 1886 the total shipment was 6,000,000 cubic feet; in 1887 it amounted to 48,000,000 feet; the amount cut in 1888 is estimated at 706,985,000 feet, and its value at \$7,750,000. The shipments abroad of lumber from Puget Sound were valued at over \$5,000,000. It is estimated that the forests of Washington contain not less than 175,000,000,000 feet of uncut yellow and red fir, and the timber field of Oregon is 25,000 square miles, a quarter of the superficial area of the State. William H. Seward said: "The entire region of Oregon, Washington Territory, British Columbia, and Alaska seems destined to become a shipyard for the supply of all nations." Lumbermen in Washington estimate that the opening of the Nicaragna Canal will add \$2 to the value of every thousand feet of lumber standing around Puget Sound, and the same is true of the still larger timber fields of the Alaskan Archipelago, the estimate being based on cheap transportation, for the cost of ocean transportation as compared to railroad is as 1½ to 10.

The wheat, lumber, fish, wool, furs, and other commodities of the Pacific Northwest will be provided to commerce in increasing quantities and with greater profit to producers when cheap water transportation is at hand to convey them promptly

to the world's markets.

The trade between Australia and our Atlantic ports has quadrupled since 1885, though it is still trifling in comparison with the total foreign commerce of those colonies, but it has grown to what it is without encouragement and in spite of obstacles and disadvantages, and favoring circumstances would open up for us large possibilities with this young and vigorous English-speaking people, whose foreign commerce already exceeds \$600,000,000 per year.

The total tonnage entered and cleared at New Zealand ports in 1885, exclusive of coasters, was 1,032,700 tons, mostly by sail to Europe.

The distance from Auckland, New Zealand, to Liverpool is 1,100 miles less by Nicaragua than by any other route. From Melbourne it is 400 miles less, and from Sydney 500 miles less, with more favorable weather and winds and currents.

From Yokohama the saving is 3,900 miles and over."

A London journal says: "In estimating the future before a waterway connecting the Pacific and Atlantic, it must be remembered that India has now 7,250,000 tons of shipping annually clearing from her ports, Australasia, 16,000,000, Hong Kong, 7,000,000, and the Straits Settlements, 7,000,000, most of which comes to Great Britain, and a very large part of which would find its way through the Nicaragua Canal, but incalculable as the advantages would be to this country (Great Britain), it is probable that the United States would benefit to a still greater extent. That this is so is clear from the fact that the greater part of the huge commerce of that country would be saved, through using the canal, sometimes between 5,000 to 12,000 miles of But economy of time and distance is not the only thing deemed of consequence by commerce.

Breaking bulk in transit is also a cost to be eliminated if possible. Manchester is to day building, at a cost of \$35,000,000, a ship canal 35 miles long to the estuary of the Mersey, when Liverpool, her natural port, is only 31½ miles distant by rail, in order to avoid making and breaking bulk away from home and that she may save to her merchants some part of the charges and commissions paid to Liverpool ship-

ping agents.

COASTING TRADE OF THE UNITED STATES.

One most important feature is yet to be mentioned. The opening of the canal will practically make our coast line continuous from Maine to Alaska, and our coasting trade will thereby receive an impetus that can hardly be overestimated. It already amounts to over 500,000 tons per annum between our Atlantic and Gulf ports and Central America and Colombia. Galveston, New Orleans, Mobile, Pearl River, Pensacola, Savannah, Brunswick, Beaufort, Wilmington, Norfork, Baltimore, Philadelphia, New York, and Boston are all interested in the total.

Steamers built for the purpose trade along the shores of the Caribbean Sea, exchanging our articles of commerce for the products of the tropics; but the best harbors and the richest districts and most valuable products of these neighbors of ours are on the Pacific side, where our vessels can not reach them, so they fall to the British and other steamers that ply on the west coast, and the trade goes to Europe.

When the opening of the canal shall have enabled the little steamers and coasting schooners to push through to the Pacific side and compete for its rich trade, with the advantage of home ports and markets thousands of miles nearer than those of Europe, it will not be long before our coasting trade shall have grown to many times its present volume. These are conditions which will tend to make San Francisco, on the Pacific and New York on the Atlantic the markets of the world, and the United States, situated as it is between the two oceans, with practically an endless coast line, the mistress of its commerce.

To this possibility the geographical location and natural features of the Nicaragua Canal are most advantageous, and Lake Nicaragua—the summit level of the canal, a mighty body of fresh water 100 miles in length by 45 in width, deepening to 150 feet, swept continually by the trade winds, with a delightful and healthy climate—gives to the route a political and international importance unique and significant. The nation that controls this canal under terms of amity with Nicaragua will here find rest and refreshment for its fleets and a point d'appui from which either ocean may

readily be reached in case of need.

To this sheltered stronghold its squadrons, after service done on either ocean, at the bidding of a telegraphic sign from the home Government may return to refit and rest in absolute security until some renewed need of action calls again for their services. There can not be imagined a more potent means of avoiding difficulty than such efficient preparation in advance to quiet promptly any disturbances which may arise.

Placed thus advantageously, one fleet would readily do the work of two, and with

a naval depot thus conveniently located, the Pacific Coast and our Alaskan possessions, as well as our commerce on both oceans, would be as well guarded as our Atlautic Coast.

This, however, is merely incidental to the canal as an American enterprise and a reason outside of financial considerations why it should command American support.

THE GATEWAYS OF COMMERCE.

When the Nicaragua Canal is built it will stand at the gateways of commerce on the Western Continent, as Suez does in the East, to take toll of more than one half of the commerce of the world. It needs no argument to demonstrate what that means. The annual reports of the Suez Canal, which possesses far less than a moiety of the natural advantages of the Nicaraguan enterprise, are its best illustration.

We subjoin that portion of the reports since 1879 which has direct bearing upon the

subject before us.

Traffic of the maritime canal of Suez.

Year,	No. of ships.	Net tonnage.	Passengers.	Receipts from tolls and passen- gers.
1879	1, 477 2, 026 2, 727 3, 198 8, 307 3, 284 3, 624 8, 100 8, 137 3, 440	2, 263, 332 3, 057, 421 4, 136, 779 5, 074, 808 5, 775, 861 5, 871, 500 6, 335, 752 5, 767, 655 5, 903, 024 6, 640, 834	84, 512 101, 551 90, 524 131, 068 119, 177 151, 916 205, 951 171, 411 182, 997 193, 895	\$5, 595, 247 7, 501, 627 9, 619, 826 11, 346, 345 12, 350, 052 12, 029, 585 12, 423, 354 11, 297, 038 11, 565, 054 12, 975, 315
Expenses of operation, etc., for 1888: For administration For operation For maintenance and renewals				307, 914 521, 137 378, 007
			,	1, 207, 056

The company has not yet published a report for 1889.

From this report is to be seen at a glance the tribute which commerce willingly pays to facilities for its more commodious transaction and its steady and continuous growth under such conditions.

ESTIMATED INCOME.

In view of all the conditions it is not excessive; indeed it is most moderate to expect for the Nicaragua Canal, when it shall be opened to the traffic of the world in 1897, a townage of not less than 7,000,000 tons ready for transit. Now, 7,000,000 tons, at \$2.50 per ton, a moderate tariff, means a revenue of \$17,500,000 per annum.

The operating expenses would for many reasons be less than at Suez, but allowing them to be the same, say, \$1,200,000, we may say that the net revenue would pay 5 per cent. on \$325,000,000, with the probability of greatly increasing even the selarge

figures.

APPENDIX A.

Table showing distances in miles between commercial ports of the world and distances saved by the Nicaragua Canal.

From—	Via Cape Horn.	Via Cape of Good Hope.	Via Nic- aragua Canal.	Distance saved.
New York to—	Miles.	Miles.	Miles.	Miles.
San Francisco	14, 840	ALL OUG.	4, 760	10, 080
Bering Strait	16, 100		7, 882	8, 218
Alaska	15, 300		6, 682	8, 618
Acapulco	13, 071		3, 122	9, 949
Mazatian	13, 631		3, 682	9, 949
Hong-Kong	18, 180	15, 201	11, 038	4, 163
Yokohama.	17, 679	16, 190	9, 363	6, 827
Melbourne	13, 502	13, 290	10,000	3, 290
New Zealand	12, 550	14, 125	8, 680	5, 445
Sandwich Islands	14, 230		6, 388	7, 842
CaNao	10, 689		3, 713	6, 976
Guayaquil.	11,471		3, 053	8,418
Valparaiso	9, 750		4, 700	5, 050
New Orleans to—				.,
San Francisco	15, 052		4, 047	11,005
Acapulco	13, 283		2, 409	10, 874
Mazatlan	13, 843		2, 969	10, 874
Guayaquil	11, 683		2, 340	9, 343
Callao	10, 901		3,000	7, 901
Valparaiso	9, 962		3, 987	5, 975
Liverpeol to-				
San Francisco	14, 690		7, 508	7, 182
Acapulco	11, 921		5, 870	7,051
Mazatlan	13, 481		6. 430	7,051
Melbourne	13, 352	13, 140	12, 748	392
New Zealand	12, 400	13, 975	11, 349	2, 626
Hong-Kong	18, 030	15, 051	13, 786	1, 265
Yokohama	17, 529	16, 040	12, 111	3, 929
Guayaquil	11, 321		5, 890	5, 431
Callao.	10, 539		6, 461	4,078
Valparaiso	9, 600		7, 448	2, 152
Sandwich Islands	14, 080		9, 136	4, 944
Spain to Manilla	16, 900	13, 951	13, 520	431
France to Tonquin	17, 750	15, 201	13, 887	1, 314
Hamburg to—	13, 931		6, 880	7,051
Mazatlan			7.7	
Acapulco	13, 371		6, 320	7, 051
Fonseca	11, 430		5, 530	5, 900
Punta Arenas, Costa Rica	11, 120		5, 515	5, 605

From-	To eastern entrance of Nicaragua Canal.	From	To western entrance of Nicaragua Canal.
New York	Miles. 2, 021 4, 769 5, 219 4, 994 4, 874 4, 220	New Orleans San Francisco Valparaiso Caliao Portland Victoria	

NOTE.—The distances have been measured by customary routes most convenient for sailing ships and slow freight steamers.

APPENDIX E.

NICARAGUA CANAL.

THE NICARAGUA CANAL PROJECT.

[From Engineering News, September 14, 1889.]

It has been evident for some time to the careful observer that, although the day of small canals is over, the day of great ship canals is just dawning. Heretofore, although there has always been as great proportional need as now for ship canals to shorten sailing distances, yet the means for construction, both mechanical and financial, were so much more limited, and the aggregate volume of traffic to be accommodated so small, that there was not enough traffic "in sight" to pay interest on a cost necessarily far greater than it is to-day.

necessarily far greater than it is to-day.

Accordingly we find that, although ship canals at Suez, Panama, Nicaragua, Corinth, Cape Cod, and elsewhere have been talked about for centuries, yet it is only within the last three decades that the first of them, that at Suez, has really been completed and put to use. At the present moment there are a dozen or so of them in various parts of the world which either are or are likely soon to be under way, as

we may show more fully before we close.

This is but the natural effect of the great change of conditions alluded to, and it is important to remember that the end is not yet in this change, great as it is. Capital is so cheap that interest is less than half what it was twenty years ago; engineering appliances are so improved that the cost in labor and time of executing great public works is certainly not more than half what it was twenty years ago; commerce has multiplied with even more marvelous rapidity. The railway mileage of the world has doubled since 1875, or in fourteen years, and that of the United States has doubled since 1877. The shipping has multiplied in the still more marvelous ratio shown in the table below:

Shipping tonnage of the world.

	1820.	1840.	1860.	1870.	1881.	1888.
SailSteam	8, 140, 000 6, 000	4, 560, 000 116, 000	9, 586, 000 820, 000	13, 826, 000 1, 918, 000	15, 002, 000 5, 644, 000	9, 497 , 000 11, 552, 000
Total Total effective Equivalent percent, perdecade.	3, 146, 000 3, 170, 000	4, 676, 000 5, 140, 000 27. 3	10, 406, 000 13, 686, 000 03, 2	15, 576, 000 20, 646, 000 50, 9	20, 646, 000 43, 222, 000 95, 8	21, 049, 000 67, 257, 000 88, 1

[The "effective" tonnage is ascertained by multiplying the steam tonnage by 5, and adding the product to the sailing tonnage, steamers making about five times as many voyages per year as sailing vessels. The percentages in the last line gives the correct decennial ratio regardless of the actual period between the figures.]

It is but natural that great enterprises which lagged along hopelessly in the '40's, '50's, and '60's, should now be begun with confidence, and it is quite certain that enterprises of any promise, which even now are neglected, will not be likely to be neglected long. For example, we can hardly expect the Nicaragua Canal to be opened before 1895, or seven years from 1888. In view of the above accelerating ratio up to 1888, what is the commerce of the world likely to have grown to when it is opened? Obviously it will be vastly larger than it is now, and that is enough for our present purpose; but we should bear in mind also that the commerce tributary to it is the most vigorously growing in the world. Perhaps, however, as giving a

more direct indication of how traffic tends to multiply, we may as well give here the following table of the growth of traffic of the Suez and Sault Ste. Marie canals since they were opened to commerce, the enormous jump in the "Soo" traffic in the last year being especially notable:

Transit through Suez Canal.

Year.	No. of vessels.	Net tonnage.	Receipts from tolls.	Average toll.
370	486	436, 609	\$869, 152	\$1.9
371	765	761, 467	1, 519, 077	1.9
372	1,082	1, 160, 743	2, 875, 418	2.4
373	1, 173	1, 367, 767	4, 170, 145	3. 0
374	1, 264	1, 631, 650	4, 533, 558	2. 7
875	1, 494	2, 009, 984	5, 286, 158	2.6
376		2, 096, 771	5, 526, 292	2.6
377	1, 663	2, 351, 447	6, 036, 186	2.5
378	1, 593	2, 269, 678	5, 669, 134	2.4
379	1,477	2, 263, 332	5, 426, 223	2. 3
380	2, 026	3, 057, 421	7, 298, 524	2.4
881	2,727	4, 136, 779	9, 438, 776	2.2
302		5, 074, 808	11, 086, 208	2.1
363	3, 307	5, 775, 861	12, 111, 698	2.0
004	3, 284	5, 871, 500	11, 725, 752	2.0
885	3, 624	6, 335, 752	12, 011, 452	1.8
	3, 100 3, 137	5, 767, 655 5, 903, 624	10, 954, 215 11, 199, 060	1.8
387	3, 440	6, 640, 834	12, 607, 524	1.1

[Receipts are computed at 5 francs per dollar. Net tonnage is about 70 per cent. of the gross tonnage.]

Transit through Sault Ste. Marie Canal.

Year ending—	Days open for navigation.	No. of vessels.	Net tonnage.	Operating expenses.
1881	198 229 216 233 219 222 218 210	3, 304 4, 676 4, 163 4, 768 5, 629 6, 203 7, 926 8, 823 8, 832	1, 802, 571 2, 379, 210 2, 130, 181 2, 540, 799 2, 981, 786 3, 701, 014 4, 862, 802 5, 581, 169 6, 932, 203	(*) \$28, 854 35, 510 31, 213 27, 242 25, 401 22, 139 29, 899

* Not at hand.

[The first Sault Canal was finished in 1855, at a cost of \$999,802. The above statistics begin with the opening of the new canal.]

On the other hand, from the accompanying little diagram which we reproduce from our issue of April 27, 1889, it will be seen that the greatest small canal in the world by far, in every sense, has been steadily falling off in traffic since 1873, and is now

even smaller than it was in 1862, when it was larger than ever before.

We need not seek far for a reason. It lies in the simple fact that the railways have distanced the small canals, not only in speed, but in actual cost of transportation, while they still lag far behind large ships and steamers in economy of transport, and to all appearance must ever do so. The most cursory examination of rates and cost of transportation will reveal this fact. The following table of lake and canal rates is perhaps alone sufficient, remembering that what may be called the standard all-rail rate between Chicago and New York is 30 cents per 100, or a trifle over 0.60 cents per ton per mile, which rate is often severely cut, sometimes by half or two-thirds. As the average cost per ton per mile of the whole United States was just about 0.6 cents (for 109 miles average haul) we may be quite certain that the fair proportional cost of hanling such freight by rail is little if any over 0.3 to 0.4 cents per ton per mile. On the other hand, the ocean rates on grain to Liverpool last year ranged from 2 to 9 cents per bushel of 60 pounds, or a 3,000-mile haul, averaging about 5 cents, or 0.055 cents per ton per mile. At 0.1 cent per ton per mile the steamers feel that they are doing very well, even on flour, which stands about 50 per cent. more per ton than wheat.

Lake and canal rates on wheat.

[Per ton of 2,000 po ands.]

	1885.	1890.	1887.	Aver-	Miles.	Per mile.
Chicago to Buffalo, lake	\$0.67 1.28	\$1.22 1.67	\$1.37 1.46	\$1.09 1.47	925 494	Oente. 0, 118 0, 298
Chicago to New York	1. 95	2.96	2. 83	2.56	1,413	0. 181
Chicago to Oswego	1. 05 1. 16	1.96 1.52	2.84 1.30	1. 85 1. 31	1, 6 60 367	0. 174 0. 357
Chicago to New York, via Oswego	2.16	3.47	3. 84	3. 16	1, 427	0. 221
Chicago to Montreal	1. 97	2.47	2.83	2. 42	1, 348	9, 179

Contrast these figures (all for net tons of 2,000 pounds) with the figures given below of lake and canal rates. We see at once that in a rude way we may classify the lowest feasible rates of freight as follows, with at least relative correctness:

Long haul rates, bulk freights (in cents per ton mile).

Small canals (about)	0.4
Rail (about)	0.3-
Erie canal (about)	0.3-
Lake, 14 to 16 feet draught (about)	0.12
Ocean, 25 feet (about)	0.05+

In evidence of why this difference should exist let us compare one or two items: It has been aptly said, in relation to coal economy in marine steam-engines, that if we assume paper to be as good fuel as coal per ton, we have only to "burn this letter" of one-half ounce weight to propel a ton a mile by steamer—in other words, a ton of 2,000 pounds will produce 64,000 ton-miles of ship and cargo on the ocean at freight speeds. The same is frequently realized by the best lake vessels. To propel one mile a freight-car weighing, with load, 25 tons takes, on an average, over 5 pounds of coal, so that on land a ton of 2,000 pounds only produces 10,000 ton-miles of car and load, or say one-seventh as much. Again, a ship costs only some \$50 per ton, a steamer some \$100 per ton, and that steamer ton will be good for some 60,000 ton-miles per year, or 600 ton-miles yearly per dollar of capital invested. Were railways equally effective per dollar of investment the \$1,000,000,000 ton-miles and passenger-miles made last year in the United States would represent a capital investment of only \$135,000,000. They actually represent a capital of \$9,607,000,000.

actually represent a capital of \$9,607,000,000.

It is needless to go further. The demand of the age being for quick and cheap transportation, we see at once why the day of great ship canals is so visibly dawning. It is dawning, not only for canals, which save great sailing distances, like the Suez and Nicaragua, but also for canals like the Manchester, which save no distance whatever, but merely compete with railways, saving the disadvantage of breaking bulk. That canal is to be 35 miles long, 26 feet deep, 120 feet wide, and to cost, if it uses up all its authorized capital, some \$49,000,000. Its actual cost will be at least \$35,000,000. Yet Manchester is a city of only 350,000 people, and the tonnage to be benefited by the canal, although as yet largely problematical, is certainly small compared with that which will be tributary to the Nicaragua canal, while the dues must be trifling in comparison.

At least one other canal like the Manchester is likely to be soon started in England: but of course the greatest stimulus to ship canal construction is when more or less sailing distance is also saved, as in the Corinth, North Sea, and Baltic, Cape Cod, and half a dozen others now under way or likely soon to be. And of all canals which ever can be built, it needs only a glance at the map to see that the Nicaragua, or other canal through the Central American Isthmus will save the greatest sailing distances. Even the saving by the Suez Canal is small in comparison.

Thus between London and Canton the Suez saves 3,300 miles (10,000 against 13,300); to Bombay it saves 4,325, and to Calcutta, 3,626 miles, the average saving being about 3,500 miles, while the Nicaragua canal saves from 5,000 to 8,000 miles on most of the voyages likely to be required. Between London and San Francisco it saves nearly 7,200 miles out of a voyage of 14,700; between New York and San Francisco, 10,080

out of a voyage of 14,840; between New York and Canton it is about 500 miles shorter than Suez, and over 5,000 shorter than "around the Horn." As compared with the

transcontinental railways it is only some 60 per cent. longer.

The following table will be convenient for reference in this connection. The distances have been measured by routes most convenient for sailing ships and slow freight steamers. The distances for swift mail and passenger steamers have not been calculated:

			Via Cape Horn.	Via Cape of Good Hope.	Via Nicaragua canal.	Distance saved.
New York to— San Francisco. Bebring Strait. Alaska. Acapulco Mazatlan Hong Kong. Yokohama. Melbourne. New Zealand Sandwich Islands. Callao. Gauyaquil Valparaiso. New Orleans to— San Francisco Acapulco Mazatlan Galao Valparaiso. Liverpool to— San Francisco Acapulco Mazatlan Melbourne. New Zealand Melbourne. New Zealand Hong Kong Yokohama. Gayaquil Callao Valparaiso. Liverpool to— San Francisco Acapulco Mazatlan Melbourne. New Zealand Hong Kong Yokohama. Gayaquil Callao Valparaiso. Sandwich Islands			Miles. 14, 840 16, 100 15, 300 13, 071 18, 181 18, 180 17, 679 13, 502 12, 550 14, 230 10, 689 11, 471 9, 750 15, 052 13, 283 10, 901 19, 962 14, 490 12, 921 13, 481 13, 352 12, 400 18, 030 17, 529 11, 531 10, 539 11, 683	15, 201 16, 190 13, 290 14, 125 13, 140 13, 975 15, 051 16, 040	Miles. 4,760 7,882 6,682 3,122 3,682 3,682 3,688 6,388 6,388 6,388 6,388 6,388 6,388 6,388 6,388 6,388 6,388 6,388 6,388 6,388 6,388 6,388 6,388 6,400 6,401 6,401 11,349 11,349 11,589 6,461 6,461 6,416	8, 218 8, 618 9, 949 9, 949 4, 183 6, 837 3, 290 5, 445 7, 842 6, 874 8, 418 5, 050 10, 874 10, 874 9, 843 7, 901 5, 975 7, 182 2, 7, 051 11, 1132 2, 265 6, 1, 265 3, 229 5, 431 4, 078 2, 152
From	To eastern end of Nicaragua Canal.		From	n-		To western end of Nicaragua Canal.
New York. Liverpool. Hamburg. Amsterdam Havre Cadiz. New Orleans	Miles. 2, 021 4, 769 5, 219 4, 994 4, 874 4, 220 1, 308	Valpara Callao Portland	iso			Miles. 2, 578 2, 518 1, 531 3, 219 3, 428

These are enormous advantages, insuring that the Nicaragua canal can easily collect 50 cents per ton or so more than the Suez, or say \$2.50 per ton. At \(\frac{1}{2}\) cent per ton per mile this would only pay railway rates for 500 miles, thus in effect reducing the competitive rail distance to 2,500 miles, or as nearly, may be, half that via the canal free of tolls. What possible chance have the railways in a competition like this \(\frac{7}{2}\) A moderately fast line of steamers will make the voyage in less than two weeks, and all but express freights will be sure to go that way, and save time as well as money by doing so, while, more important than all, vast sources of traffic, like ores and timber, of which none is now shipped, will furnish a new and heavy traffic. The larger part of the timber supply of the Atlantic coast, for example, is likely to come from the Pacific coast via the canal.

We deem it therefore an entirely safe assumption that the traffic "in sight" is at most not over half what will exist after the canal has been three or four years in

operation. But the traffic "in sight" has been growing rapidly of late years. Estimates, presumably impartial, by the Bureau of Statistics showed as the traffic "in sight:"

Year.	Shipa.	Tons.
1879	2, 647 4, 139	2, 671, 886 4, 252, 434

At the present time the most moderate estimates show 6,000,000 to 7,000,000 tons as the probable traffic by 1895. Lesseps claimed 10,000,000 as the minimum for the Panama Canal in late years, but that was certainly extravagant. That it will be attained within much less than ten years after the opening of the Nicaragua Canal,

however, we regard as almost a certainty.

Now, even 6,000,000 tons at \$2.50 per ton means a revenue of \$15,000,000 per year. The operating expenses ought certainly to be much less than at Suez, where they are about \$1,000,000, so that we may say that the revenue will pay 6 per cent. on some \$250,000,000, and 3 per cent. on \$500,000,000, with the probability of greatly increasing even these large figures. It is, therefore, apparent that it really matters little what the canal costs, as respects the expediency of constructing it, unless its cost is to exceed \$200,000,000; and let any one with any knowledge of construction look over the profiles and quantities which we publish in this issue, and see where there is reasonable probability of even half that sum being required for construction. The actual cost has been usually estimated at some \$60,000,000 to \$65,000,000, and we confess we see no reason why those figures may not be realized. But we can also see reasons why they may possibly be doubled, and we therefore think the company is eminently wise in not putting before the public at this time any estimate of their own, but simply saying: "Here are the profiles and the quantities; judge of the cost for yourselves."

There will be an inevitable tendency to exaggerate the estimates thus challenged, from remembrance that the \$40,000,000 Suez Canal actually cost \$100,000,000, and the \$120,000,000 Panama Canal cost over \$200,000,000 actual and \$350,000,000 nominal to prove that it could not be built at all. But as we showed at some length in our issue of July 14, 1888, the conditions at Nicaragua are vastly different from those Panama. We can not again go over in detail all the technical differences, but they are of the first importance. There is no unsolvable Chagres River problem; there is much less canal in excavation; there is much less deep cutting; there is no problem of water supply; there is no rotten, sliding rock; there are no endemic pestilences; three is a stiff trade breeze the year round to maintain health and comfort; there is a prior knowledge from detail surveys of just what is to be done which was wholly lacking at Panama; there is the advantage of all the experience gained at Panama, and of an official "base" on this side of the ocean instead of on the other

side; and there is the practical certainty of far better management.

These are enormous advantages, and it therefore seems to us that no reasonable man can doubt, first, that the canal can be built for \$100,000,000 to \$150,000,000 at the very most, and secondly, that it will be exceedingly profitable even at that rate. If so it is quite immaterial what may be the precise cost of the canal, and the only error to be seriously feared is of promising to build the canal for less than really proves necessary, a result which always casts an injurious cloud on an enterprise. But it is not true that carefully made engineers' estimates are not generally safe guides. If any one glances at the top (general) profile on our inset sheet, and sees by the contrast of blue and orange colors how large a proportion of the length of the canal is natural navigation, and how large a proportion of what is left is mere dredging work, involving no uncertainties, he can hardly help deriving a most favorable

augury for the success of the enterprise.

We have always felt a regret, and do now, that the Government did not take hold of this enterprise when President Grant negotiated a treaty to that effect and recommended it. Such a canal ought to be a great highway of nations, run not for private profit, but for the profit of a whole nation at least, if not of the whole world. But it was somewhat contrary to our national traditions, although not more than our river and harbor improvements were when they first began, and the opportunity has passed. It is worthy of consideration, however, whether even now a true regard for the public interest would not require that the same end should be attained measurably by a Government guaranty of interest on bends for construction, in return for certain stipulations as to reduction of rates as traffic increases. If the whole conduct and cost of the enterprise be left to a private company, we do not doubt that they will be able to raise the money, but it will cost them 6 to 8 per cent. instead of the 3 per cent. which a Government guaranty would insure; and the company will

reasonably claim that, having been left to push the enterprise through unaided, they had a right to enjoyment of the profits of their monopoly, however great, although in the beginning they might have been glad to accept the certainty of a moderate

profit rather than the chance of a greater one.

Suez proves, however, that such companies prefer to reduce tolls considerably as traffic grows, merely to encourage its greater growth, and perhaps this alone will serve as sufficient check. Whatever be done we are satisfied from all the information we can gather that a few months more will see the main contracts let, the money for construction insured, and the work which is already begun in active progress; and we confidently look forward to seeing its construction prove one of the most honorable achievements of American enterprise, in broad contrast with the fiasco at Panama, which possibly for the moment may be somewhat of an impediment to the company's negotiations.

THE NICARAGUA SHIP CANAL.

[From Engineering News, September 11, 1889.]

(The maps and figures referred to are omitted.)

The work on this canal being now fairly begun, engineers in general will be greatly interested in the large colored sectional profile which accompanies this issue and which gives the first information as yet published of the precise nature of the material on the line, without which, of course, it is quite impossible to form very definite views as to the probable cost of the canal or the sufficiency of estimates.

We comment at some length on another page on the general status and promise of the enterprise as shown by this profile and other accompanying information, and in

this article confine ourselves to a presentation of the facts which must form the basis of any opinion in regard to it, so far as they are as yet determined.

We published on July 14, 1888, a general summary of the results of the 1888 surveys, with maps and profiles. We reproduce in this issue three of these maps, with some corrections, viz, a general map of the entire route from ocean to ocean (Fig. 1) and detail maps of the western division (Fig. 2) and of the canal and basin part of the eastern division (Fig. (3). All the rest of the route consists merely of lake and slack-water river navigation.

Our large colored inset sheet shows, first, a general profile (A) of the entire route; and secondly, detail profiles to large scale of (B) the eastern division, Greytown to Deseado Basin; (C) middle division, Deseado Basin to San Juan River; (D) crest profile of the crest and embankments which together form the San Francisco and Machado Basins; (E) center line of San Juan River, showing the character of bottom and extent of dredging required; (F) western division, Lake Nicaragua to

Brito.

On all these detail profiles the material is accurately indicated in a manner which, once comprehended by a brief study of the symbols, becomes very distinctive. red indicates clay wherever it appears. Red clay is shown by plain red; blue clay, by red striped with blue; yellow clay, by red striped with yellow; white clay, by red Yellow indicates sand, gravel being indicated by black dots on a striped with white. yellow base, and clay and sand mixed by red and yellow stripes crossing diagonally. Loams are indicated by black vertical stripes. If it be a clayey loam, these stripes are on a red base; if a sandy loam, on a yellow base.

The distinction between rock and earthy materials of all kinds is so distinctive as

to be at once grasped by the eye, even without the aid of any special description. Thus it is hardly necessary to refer to the key at all, although 12 different kinds of

material are indicated.

In reference to the character of the earths, we may say, from personal examination of the samples of borings, and from the universal testimony, that all the clays seem to be exceedingly retentive of water. Even the mixed clay and sand seem to be an excellent natural puddle. The "loams" are all of them poor material to have about a canal bottom or dam foundation, and where they exist must be got out of the way. Fortunately, this material is not often encountered in objectionable positions, although some considerable deposits of it will be found under the embankment dams shown in Profile D.

The profile is reduced photographically from the very elaborate profiles which have been constructed by the company to the usual railway profile scales of 400 feet per inch horizontal and 30 feet per inch vertical. The reduced profile is to a scale of 3,000 feet per inch horizontal or only one seventy-fifth as large, and proportionately for the vertical scale, but as the reduction was wholly photographic the profile still remains minutely accurate, and may be enlarged to 7½ times its present size by a magnifying glass, or otherwise, and still afford as great accuracy as the original profiles. We think it but due to Mr. Menocal and his able staff of assistants to say that in a somewhat large experience with plans of this nature, we have never seen

any which showed such signs of careful preparation; nor do we recall any large enterprise in which there has been any approach to equal pains to determine precisely

what had to be done before attempting to do it.

The basis of fact on which the sectional part of the profile is constructed the reader has before him in the profiles themselves, where the position and depth of the borings taken is accurately indicated to scale by vertical black lines. A considerable number of additional borings were taken too far off the line to be shown on it, but with this exception all the borings taken appear, except along the bed of the San Juan River (Profile E), where they were not accurately located, nor were they as carefully made as the others, being confined for the most part to a superficial examination of the bottom by rods, all material which could not be thus penetrated being called rock. It is not claimed, therefore, that this profile is as precise as the others, but it is believed to err chiefly by too much rock.

The other borings on all the profiles were taken with boring tools adapted for penetrating earthy materials only, the assumption being everywhere that the material below the lowest point to which the boring could be pushed was rock. This tends to safety in the estimates by exaggerating, if anything, the amount of rock; and it is altogether probable that, at a few points on the profile at least, the amount of rock is less than is shown. On the other hand, in the foundations of the locks it would be a disadvantage if the material should not prove to be rock; but the only doubt in this respect is deemed to be in regard to Lock No. 1, Locks No. 2, 3, 4, 5, and 6 being quite certainly on rock, and the material under Lock No. 1 being at

least hard material in which boring tools will not penetrate.

Further borings by rock drills through the entire depth, rock and all, are now in progress at the great eastern divide cut, and will afford details for the subdivision of the "rock" into at least two classes, rock proper and talpetate or tepetate, two materials which differ very much in hardness and cost of excavation. The rock proper is a very hard, unstratified volcanic rock, and of this the great rock cut in the eastern division is mainly composed, with a coating between it and the clay of talpetate. The last is a material we have often described, found only in volcanic countries, and supposed to consist of consolidated volcanic ash or mnd. It holds a slope quite as well as rock, and also requires powder for its economical working, being sometimes hard enough to serve as building material, but being much more cheaply excavated than ordinary rock, resembling in texture and hardness a very much under-baked brick more than any other material with which we are familiar. Immense deposits of it exist throughout Mexico and Central and South America. It will evidently tend to reduce the cost of the work quite sensibly should there prove to be a considerable percentage of this talpetate in the material shown as "rock" on the profile, but for the present this contingency is neglected.

The extraordinary natural advantages of this route, as shown by the large proportion of it on which there is a natural slack-water navigation, will be seen by a glauce at the upper (general) profile on our colored sheet, on which all this class of navigation is colored blue, and all that part requiring canal excavation colored orange.

In the aggregate there is:

Canal in excavation:	Miles.		
East side	16.048		
West side			
Six locks	0. 759	27, 967	milea.
Basin of the Deseado			
Basin of the San Francisco			
		21.092	miles.
River San JuanLake Nicaragua			
		121.040	miles.
Total length of route		170.099	

Contrasting this with the two great previous canal enterprises we have:

Route.	Length.	Canal exca- vation.
Sues	Miles. 99. 2 46. 5 170. 1	Miles. 65 46, 5 27, 9

Thus, although the Nicaragua route is the longest of the three, owing to a long, unbroken stretch of 121 miles of free navigation in the midst of it, the length of canal proper is by far the shortest of the three. By percentages we have the following comparison:

	Miles.	Per cent.
Vicaragua Canal: Canal in excavationFree navigation, basins Free navigation, lake and river	27. 907 21. 092 121. 040	16. 4 12. 4 71. 2 83. 0
Total	170.099	100.0
Guez Canal: Canal in excavation. Free navigation, lake	87. 2 12. 0	87. 9 12. 1
Total	99. 2	100.0

The Panama Canal is wholly in excavation, 4.3 miles of it being below sea level, and 42.2 miles above sea level, and mostly very much above it, as will be seen by referring to our profile of that canal published June 2, 1889. Up to that date the company's estimate showed 49,000,000 cubic meters (65,000,000 cubic yards) while there was about as much more work required even to make the lock canal. How many times more than this would have been needed to make a sea-level canal we can only guess. As this project is now hopelessly dead, however, we need not trouble ourselves further with data regarding it. The total estimate of rock and earth excavation for the Nicaragua Canal is only 55,513,638 cubic yards, as shown in more detail below.

A previous more detailed summary, differing somewhat decimally with that just given, but so slightly that it does not seem worth while to take the trouble to correct the trifling differences, shows the canal to consist of the following elements:

		West side.	East side.	Total.
A. B. C. D.	Sea-level canal dredged in earth from the coast	Miles. . 57 6. 40 2. 42 2. 00	Miles. 10.00 2.836 2.146 .354	Miles. 10.57 9.236 4.566 2.354
F. G.	Total canal, apart from locks. Natural surface flooded by proposed water levels so as to give 30 feet of water or over, without any dredging or excavation. Do., requiring earth dredging only. Do., requiring rock excavation.	11. 39 4. 53 . 74 0	15. 336 13. 60 2. 70 5 5 †. 248 §	26. 726 18. 13 3. 44 0
H. I. K. L.	Locks Natural water courses having 30 feet or over on proposed level. Do., requiring earth dredging only Do., requiring any rock excavation.	". 369 37. 04 2. 40 3. 5	1. 24c 1. 123 43. 67 24. 10 10. 33	. 738 80. 71 26. 50 13. 83

*All rock.

Rock.

i Earth.

SUMMARY.

Natural water courses or artificial basine requiring no work at all on them to give 30 feet of water	98. 84
Basin, river, and lake navigation requiring earth dredging below proposed water surface only to give 30 feet of water.	
Do., having a layer of rock in the bottom to be excavated or dredged	13. 83
Canal sections, dredged in at sea level Miles. Earth through cuts, no rock 10, 57 Rock through cuts, some earth 4, 566 Rarth through cuts, some rock 2, 354	
Total length of canal in through cut	26.762 0.738
	170, 074

Vorth execution

The company, somewhat to our regret, but we can not say unwisely, prefer not to put forward at this time any estimate of total cost whatever. The quantities, as computed by their engineers, they are quite willing to give, and they are given below. The transverse and longitudinal sections on which the quantities are based are shown herewith, and if they do not suit any one's ideas of what such sections should be, it is easy to recompute the quantities from the data given in this issue, either precisely or approximately. As to the cost of the work per yard, there has been so much discredit, just and unjust, thrown on such estimates in the past, that the company as yet prefer to maintain an entirely noncommittal attitude, and they decline to furnish us with any estimate on their part of what the work will cost per yard or in the aggregate, at least until the work has been actually let. They say simply: "Here are our quantities; here are the profiles and cross sections on which the quantities are based; the climatic and other conditions, so far as known, are thus and so. Make your own estimates for the present of what the total cost will be." This privilege we exercise elsewhere to some extent, but in the meantime will merely note that Chief Engineer Menocal's prices for the more important items in his estimate of 1885, which he states he has seen no reason to regard as too low, are as follows:

ner enhic word

518,675

94, 813

Earth extavation per cubic yard.	- GU. 40
Earth dredgingdo	20
Rock excavationdo	1.50
Rock under waterdo	5, 00
Stone pitching, rock furnisheddo	2,00
Concretedo	
Stone in breakwater (from divide cuts)do	1.50
Sheet piling in placeper M. B. M	70,00
Trestle for dumping rockper lin. ft	22.00
Clearing and grubbingper acre.	100,00
Clearing and granningper acre.	. 100.00
This includes the main items of cost. The total quantities for the larger	ger items
	~
Earth dredging for canal (all below sea level)	Oubic yards.
Earth dreuging for canal (an octow sea level)	
Earth excavation (all earth above sea level)	16, 440, 368
	15, 008, 347
Rock under water	575, 445
Total apart from harbor work	55, 513, 638
Cubic yards.	
Greytown harbor, dredging	
Brito harbor, dredging	
	4 714 358
	7, 717, 000
Total earth and rock excavation	70, 227, 996
Rock fills for dams and breakwaters (from divide cuts)	A DAE YON
Earth fills for dams and breakwaters (borrowed from canal excavation)	0, 000, 1/1

Among the miscellaneous items provided for in the estimates whose adequacy can be most satisfactorily judged by their aggregate cost are the following:

Concrete (chiefly for locks).....

Stone pitching.....

Gates for the six locks	\$783, 242
Two movable dams or guard gates	600,000
Machinery for locks	550,000
Buildings for locks	165,000
Pumping (chiefly for Locks 1 and 6)	200,000
Plant for lighting and buoying canal	372, 200
Crib piers at entrances to canal (apart from breakwaters included in rock	31 20, 2000
fills)	783, 924
Three swing bridges across canal	60,000
100 wiles to come b	
128 miles telegraph	64,000

By adding the total of the above list to the product of the above list of prices any one can determine for himself what may be called the "visible cost," and he will find it in the neighborhood of \$55,000,000. To this there must beyond all question be added a very considerable percentage for hospitals, shops, cost of labor supply, de-

lays by possible epidemics. Even in this country we should add as a matter of course 10 per cent. to the above estimate for "engineering and contingencies." this work there ought to be beyond all question a considerably larger percentage added, and there may be some question likewise as to whether there may not be slips and landslides, etc., which will require an enlargement of the proposed cross-sections. As to that, however, we may say that there seems little chance of it in the two big rock cuts where alone it could become an important consideration.

We ought to know absolutely as to this in a short time, when the borings through the rock are completed, as above noted, but in the meantime all the indications are that the rock will hold a steep slope well. This we understand to be the general opinion of all engineers and contractors who have examined the cut. Whatever other difficulties may arise, there seems no reasonable chance of there being another case of a mountain sliding in as fast as excavated, the formation being quite differ-

ent from that at Panama.

The general character of the alignment of the whole route is correctly indicated in Figs. 2 and 3. About two-thirds of the route is tangent (omitting the lake, which is all tangent) and the remainder easy curves of 4,000 to 6,000 feet radius for the most part. The sharpest curve is in the divide cut, 2° 16′, or 2,528 feet radius. There are two or three other curves of about the same radius in the river, but for the most part the river channel is wide and straight. The precise alignment of the sailing line is not yet regarded as absolutely fixed; therefore, we do not give a complete table of alignment. A new alignment has recently been shown to be possible for the great divide cut, shown by the dotted line A in Fig. 3, which not only saves distance and curvature but saves about 1,000,000 cubic yards of rock excavation included in the above quantities.

After the completion of the chief engineer's report and estimate, an advisory board to report on the practicability and cost of the canal, as proposed by the chief engineer, was appointed as noted in our issue of Jan. 26, the board consisting of John Bogart, E. D. T. Myers, C. T. Harvey, H. A. Hitchcock, and A. M. Wellington. This board reported some time ago, but the company is not yet ready to give out the text of their report for publication for the reason above noted, that they do not desire as yet to commit themselves even by implication to any estimate of cost whatever, confining themselves simply to presentation of quantities, and other controlling conditions.

As for the two important and in a measure controlling conditions of climate and labor supply, we understand that the latter is not likely to be a very serious diffi-Owing to the nature of the work, as above and below outlined, the number of employés required will not be at all in proportion to the magnitude of the work, since a very large part of it will be executed by machinery. All the earth excavation may be classed as dredging, since it will all be executed by dredging machinery, and this accounts for nearly 55,000,000 out of the 70,000,000 cubic yards of excavation. For this very few men will be required. The 500,000 yards of concrete will also be mixed by machinery and require labor in any amount for ramming only. 15,600,000 cubic yards of rock is, most of it (14,000,000 cubic yards), in the two great divide cuts, and will be drilled and hauled by machinery, requiring labor in large amount for loading only. Here, however, will be the greatest demand for labor, and possibly 10,000 men may be required on these two cuts alone. The dams and embankments are now to be all rock fills, and not built of concrete, as heretofore proposed, the suggestions of this journal in favor of so constructing the dams, made in its issue of July 28, 1898, having been adopted by the company, thus greatly simplifying that important part of the work. All the skilled labor which will now be required for the dams will be only for a little sheet piling and trestle work.

It appears to be generally admitted that Jamaica negroes will furnish the bulk of the labor, and that 10,000 to 15,000 can be readily obtained from that island alone at \$1 per day, more or less. With the miscellaneous thousands who are quite sure to flock to the work from all the other surrounding countries and islands, this ought to make the question of labor supply a comparatively simple one; provided no long-con-

tinued epidemics occur to drive away labor.

In respect to the question of health and climate, all accounts concur that the entire route is now and always has been free from dangerous epidemic diseases, and from frequent epidemics as well. Like New York and New Orleans, Greytown has had epidemics of cholera and yellow fever, but the last was some twenty years or more ago. In regard to the western coast, on which over a third of the work is situated, there does not seem to be the slightest ground for any anxiety as to health conditions. The climate is warm throughout the year, and hence somewhat debilitating for whites, but the rainfall is moderate, and there is rather less cause for anxiety than there would be for summer work in Texas, a great ameliorating influence being the brisk trade winds, which blow uniformly from the east over the entire length of the canal, and make the nights cool and comfortable. The importance of this advantage over Panama, where this trade wind is wholly absent, can hardly be exaggerated.

On the eastern division there is a great deal of rain; about as much as at Panama, or a decided wetness throughout most of the year. There is also not a little calentura (the Spanish name for intermittent fever) which in tropical regions is at times a serious and fatal disease. But with proper care and caution, and avoidance of all use of stimulants except a small dose at night after work, there does not seem to be any difficulty in keeping in good health continuously in eastern Nicaragua. According to a great variety of independent information which has come to us from time to time, the great and only essential for health along the coast is strict attention to hygiene. Yellow fever has never existed continuously in Greytown, as it does in Havana and Vera Cruz. It may possibly become endemic during construction unless careful sanitary precautions are taken, because the town will be likely to have a mushroom growth to a considerable size; but the company, with eminent foresight and wisdom, are now laying pipes to supply abundant pure water, and purpose sewering the town also, we are informed, as soon as its growth begins.

A most important consideration in respect to this question, moreover, is this: general character of the coast is a broad, low coast flat, through which the dredging occurs, ending in an abrupt escarpment, in the lowest point of which the "great divide cut" occurs, the main crest in the vicinity being upwards of 500 feet high, and directly exposed to the trade winds. It is at this cut that the bulk of the laboring force is required. As the work will last four or five years at least, the camp may be permanent, and the conditions of insuring health in a great permanent camp exposed to the direct blast of the trade wind and with an abundant supply of pure, cold water, would seem to be unusually favorable. That they are so, and that health might be maintained in such a camp by strict policing, even if epidemics were raging in Greytown, seems to be the general opinion of those who ought to know. There is no use disguising the fact, however, that there will be danger of sickness at Greytown when the inevitable host of camp followers occupies it, unless, as ought to be done, the whole town can be put and kept under martial law.

It is proposed to construct 35 miles of railway on the eastern division, from Greytown to the Ochoa dam, and 18 miles on the western division, from the Pacific to the Lake. It is now under consideration, however, whether the 10 miles of railway between Greytown and Lock No. 1 can not be saved, starting the railway from the latter point, and using east of it the natural chain of water communication shown on Fig. 3, improved a little at points, until a channel can be excavated through to the same point by the first cut of the dredges. In that case, the breakwaters at Greytown would be built by deposit of stone from scows instead of from railway

cars. We can not see why the suggestion is not a good one.

The dimensions proposed for the locks are 650 feet long by 70 feet wide (increased this year from 65 feet) by 28 feet deep. The chamber width of the locks will be 80 feet. The Sault Ste. Marie lock, the largest yet built in the world, is 515 feet by 80 feet by 17 feet on miter sills, or 16 feet draught. The new lock now building will be 800 feet by 100 feet by 21 feet, on miter sills, but this great size is only for the purpose of letting through several vessels at once. The main dimensions of the largest ocean steamers are as follows:

	Etroria and Umbria.	City of New York and City of Paris.	Teutonie and Majestie.
Length Breadth. Depth hold Draught (about)	501. 6	565	582
	57. 2	63. 2	57. 5
	38. 2	42	89. 2
	27	27+	27+

The above draughts is about all these vessels can draw to enter New York; the

"Plimpsol mark" is somewhat higher.

The above seems all the data which it is necessary to give, in addition to that given in our issue of July 14, 1888, and in the following article. This is certainly the most important engineering project now before the world, and we can not doubt will be triumphantly carried through to completion. Had the project in its present shape been before the Lesseps congress of 1879, it can not reasonably be doubted that even that most prejudiced body would have adopted it nem. con., as it is from every point of view so vastly superior to that at Panama, and the Nicaragua Canal would now be open to the world; but, unfortunately, there was only the old survey of 1872-73, with its 20 locks, 4 dams of the San Juan, 6½ miles of extra distance, and 49 instead of 27 miles of canal excavation to lay before that body.

Preliminary work has been now for some weeks in progress on the canal, mainly in the way of getting the camps established; water pipes to supply Greytown laid; railway located and right of way cleared; deep drillings made through the rock cut; harbor works at Greytown started, etc. No contracts have as yet been let, but negotiations are in progress with several parties. When the contracts are let they will probably be very large ones, to three or four parties only. We understand that the question of raising the money is now regarded as merely one of detail, not of dif-

ficulty.

APPENDIX F.

THE NICARAGUA CANAL.

[From the California Banker's Magazine, October, 1890.]

The active and successful prosecution of work on the interoceanic waterway through Nicaragua is a matter of such vital importance to the Pacific coast that it should receive the cordial support of all our people. Like all great works of this character, however, the far-reaching results are little considered by those whose in-

terests will be the most affected.

When the subject was first introduced to the people of this coast in 1880 the growing interest of agriculturists was met by the assertion that the railways would furnish all the necessary transportation for wheat to Atlantic ports, whence it could be cheaply carried to Europe by sea. The promise was not fulfilled, and the Cape Horn route still controls the Pacific coast wheat trade, which is as much a gamble as any hazardous game of chance can be. Ships are now generally chartered and loaded by one party; the cargo is purchased, loaded, insured, and sails on its voyage of four to four and a half months of free storage, during which time it must be disposed of, frequently at a loss, unless, as a last resort, consigned to an European firm, in which case commissions and the usual multiplicity of charges generally make a heavy loss to the shipper. The market here, under normal conditions, follows the English market so closely that it is seldom that a cargo just loaded shows any profit with charges added; often on the day of sailing it shows a loss, and becomes a gamble, with chances against the shipper. It is a noticeable fact that fortunes have been lost here in the export wheat trade, while none have been made. It is not in the prescience of humanity to foresee the future; to correctly forecast the rainfall and weather months in advance, and to correctly gauge crops at the four quarters of the globe not yet planted; it becomes a gamble against the forces of nature. Such has been the Pacific coast export wheat trade; such it will cease to be the day the canal is open!

The time for transportation will be reduced to twenty-five days' easy steaming, and the distance decreased by 10,000 miles. Wheat will be shipped as other merchandise, in any quantity, from 5 tons to 5,000, already sold by wire, or consigned with a margin already ascertained, with a delivery practically assured within a day or two. It will become a mercantile transaction on comparatively assured profit, however small, the gambling element almost entirely eliminated. The producer of small or large quantity can ship his own product, if he wishes, as ocean steamers will be always ready to receive it, or any other freight, in any quantity. Ocean transportation is the cheapest known to commerce, comparing with average railway transportation as one to five in cost, and the ocean is free to all; admitting of no pools or combinations. It is God's great highway—nature's anti-monopoly route, a road that never wears out!

"Not so thou; Unchangeable save to thy wild waves play Time writes no wrinkle on thine azure brow: Such, as creation's dawn beheld, thou rollest now!"

One large ship can carry a cargo equal to twenty railway trains of ten cars each. The completion of the canal will open the markets of northern Europe to California fruits and garden products, by the use of steamship refrigerators. A temperature of 38° to 40° Fahr. will prevent decay in fruit indefinitely, if the cold atmosphere be devoid of moisture. Fresh meats have been, for a few years, successfully transported in this manner from Australia and New Zealand to Europe. The transportations of meats in refrigerators on sea voyages requires a temperature about 26° Fahr., which is a much more severe test than will be required in transporting fruit. The past season has opened the Eastern market to our horticulturists, and they can fully ap-

preciate the still greater advantages of a market in northern Europe for their grapes, pears, peaches, plums, oranges; all the varied products of the orchard and the farm; arriving there during a portion of the year at a time when local products of this character are not to be purchased at any price. With such a demand added to our

domestic market, overproduction will be impossible.

The export lumber trade of the northwest coast will be vastly increased by the waterway through Nicaragua. Already occasional cargoes are sent via Cape Horn to Europe, and via cars to the eastern seaboard. But when lumber can be freighted at materially decreased cost, and in one-fifth the time, the trade will rapidly grow in importance. Europe and our Eastern seaboard is mostly denuded of timber, and the demand will steadily augment at improving prices. The States of Washington and Oregon, as well as the Territory of Alaska, will in this trade promptly realize the

benefit of the new commercial route.

The trade of India, China, and Japan can not fail to be greatly affected. The Suez route will no longer be able to supply our Atlantic ports with tea, silks, etc., the route across the Pacific and via Nicaragua being three days' shorter steaming distance, under much more favorable conditions as regards navigation, with Honolula as a port of call and coaling station. The mistaken policy of making our Pacific coast ports way stations and New York the main distributing point must then be discarded, and distribution from the Pacific coast eastward will be the aim of railway companies with terminals at Pacific ports. The diversion of this trade need not be feared at San Fraucisco, and the conditions connected therewith, now imposed upon us by the present railway policy, can not well be made worse, as under them we have been gradually losing the trade of China and Japan, which properly belongs to us by geographical position.

The territory in northwestern America tributary to the canal will extend to the Arctic Ocean and eastward to the 100° meridian. For five months in the year water communication eastward from the interior of the great northwest is cut off by frozen lakes, rivers, and canals. During this period, instead of yearly awaiting the opening of navigation, transportation to the Pacific coast will solve the question of time and interest, with the assistance of the open waterway through Nicaragua to Atlantic ports. This alone will more than compensate our Western railway systems for any diversion of trade caused by the canal, and, with the adoption of the policy of distribution eastward from Pacific coast posts, will materially improve their earning capacity, independent of the rapid development of the Pacific coast after the open

ing of the new waterway.

The fisheries of the Pacific coast, now in their infancy, will add to the revenues of the canal, and greatly increase our shipping interests. Already the attention of parties engaged in this industry on the Atlantic coast has been attracted to this new field, and when they can place their vessels on the fishing ground in a comparatively short voyage, and return cargoes unbroken in bulk, there will be inducement for a large and remunerative business. We have considered thus far only the commercial advantages of the Nicaragua Canal; much more might be written on this branch of the subject, but the limits of this paper forbidding, we must pass on to the consid-

eration of political conditions.

The construction of the Nicaragua Canal under present auspices will secure the domination of the United States over the American Continent, politically as well as commercially. The position of Lake Nicaragua is unique; Gibraltar is not a circumstance to it in importance. A naval station on this inland sea, with fortified termini and an efficient fleet, will control the Atlantic eastward to the Windward Islands of the West Indies and westward to the Havaiian Islands and Samoa. On its fresh waters iron-clads can lay without diminished speed caused by foul bottoms, with fresh water for boilers, in a delightful climate, splendid harbors, surrounded by a territory producing maintenance for the personnel of fleets and armies. The nation that, with the Nicaraguan Government on a joint agreement, controls Lake Nicaragua will then control the destiny of the Western Hemisphere; it will be, in fact, a constant assertion of the Monroe doctrine, securing respect for its requirements by the peaceable possession of power to assert them. The foreign policy of our country will become of greater importance every year. A nation of 65,000,000 can not ignore, at this age, its national responsibilities and maintain its self-respect. The protection of its citizens and their property abroad is as much a duty as government at home. In vain may we send out commissions to seek outlets for our products and manufactures if we do not propose to follow them with our national protection. The public demand for a modern navy indicates the will of our countrymen on this momentous question.

One great advantage possessed by the Nicaraguan Canal over any other project of the kind is the fertility and resources of the territory through which it passes. The Suez Canal has a sandy desert on each side; the Panama Isthmus is a region of floods without local resources, but Nicaragua is one of the garden spots of the world. With a climate tempered by the northeast trades, which, in this favored region, blow

perennially across the Republic, with a fertile soil, assured rainfall, and internal water communication, we shall there see a development of resources shortly after the canal is opened which will alone pay the cost of its maintenance, and aid in its increasing dividends. Coffee, sugar, cochineal, indigo, the finest cocoa in the world, India rubber, cotton, and all the tropical fruits are among its productions, while a large part of the Republic is covered with valuable forests of mahogany, cedar, grenadilla, black walnut, ebony, and various dyewoods. In the eastern department, bordering the lakes, are found rich mines of gold and silver, some of which have been worked for years, mostly by European capital. When Lake Managua has been connected with Lake Nicaragua by the short canal provided for, and all this fertile region is connected by water communication, supplemented by railroads, it needs no prophet to predict the development which will ensue on this highway of the world's commerce. It would demand a canal on its local conditions, aside from its character as an interoceanic highway.

What can be expected from the canal financially? This fundamental question is

worthy of critical investigation.

The character of the work, with its twenty-eight miles of canal in excavation on the surface, with its easily-solved engineering problems, the most difficult of which (the restoration of the harbor at San Juan del Norte) is already partially solved, permit us to predict that its limit of cost can be assured with reasonable certainty. The several surveys have been exhaustive and satisfactory, and the borings have furnished the necessary information as to material to be excavated. With this abundant data, the engineer's estimate is \$64,043,697, exclusive of interest during construction and banker's commissions. The careful report of the canal committee of the board of trade of San Francisco (of which the writer had the honor to be chairman) in 1880, places the estimate of possible cost at \$100,000,000, and we now see no reason for increasing this except for the substitution of larger locks, which it is now proposed to increase to the following dimensions: 1,000 feet long, 100 feet wide, and 30 feet deep, which will enable two to four vessels to pass through at one lockage. The estimated tonnage by the report of 1880, alluded to, was 5,000,000 tons per annum. Subsequent developments assure us of 6,000,000 tons before the canal can be completed in 1897. At \$2.50 per ton toll (about the same as now charged at Suez), this will make an annual revenue of \$15,000,000, from which, deducting the liberal estimate of \$1,000,000 per annum. Even if the cest be increased to \$150,000,000, we have a net revenue per annum. Even if the cest be increased to \$150,000,000, we have a net revenue per annum. Even if the cest be increased to larger proportions, or the passenger traffic, which would be large, for a trip through the Nicaragua Canal will become a favorite recreation, owing to the beauty of the scenery and the climate of the lake region. There is not a doubt that the property would start out on a paying basis, and rapidly develop into one of the best-paying investments in the world; ultimately better than the Suez Canal, whi

The lockage question is one of interest to students of this subject, and I may be permitted in this connection to quote from the recent report of Charles T. Harvey, C. E., regarding the operation of the lock canal at Sault San Marie, between Lake Superior and Ontario. This work shows the following comparison with the Suez Canal (water

level) in the year 1889:

	Number.	Tons freight.
Lake Superior canal lockages Suez Canal passages.	4, 684 3, 425	7, 516, 022 6, 800, 854
Total	1, 259	709, 168

The American lake canal with lock has thus exceeded the Suez Canal, in 1889, 33 per cent in voyages and 10 per cent in freight, and, therefore, ranks first as to commerce among the world's artificial water ways. And this was done in seven months' day and night work, against the twelve months at Suez, the American work having been blocked by ice during five months of the year, approximately.

Why this enormous development of tonnage, except that it is unapproachably

Why this enormous development of tonnage, except that it is unapproachably cheaper than land carriage can ever be? Eleven minutes fills the lock and eight minutes discharges it; 87 vessels have been passed through daily. On this showing the capacity of the Nicaragua Canal with one set of locks may be placed at 14,000,000

tons per annum, which can be doubled by duplicating locks, as the water used for lockage with one set of locks is only 10 per cent of that now being discharged by the Rio San Juan at ordinary lake level, without regard to rainfall and without lowering the lake level. The expense of operating locks is well attested by the Lake Superior Canal, where nearly \$,000,000 tons were lock-lifted in 1889 at an expense of \$36,000, making a rate of four-tenths of a mill per ton. The liability to accident is illustrated by the experience of a third of a century at the same water way. The lock gates are operated by hydraulic power and guard gates are placed at a proper distance, to be used when necessary. Occasionally minor accidents have occurred at the entrance of the lock, but nothing that materially interfered with traffic. Alluding to the work of the Lake Superior Canal Mr. Harvey writes: "I have seen fifteen steamers, some of 3,000 tons, as passed, passing, or waiting to pass the locks, and within one hour all had disappeared on their respective voyages." I may conclude these observations on locks by quoting from the report of the board of trade of San Francisco, published in 1880, before alluded to: "We see no reason why the philosophy that nature teaches should not be made use of to conquer the obstacles that nature places before us; and we claim that it is better and more reasonable to carry a ship over a summit by means of lift locks than to build a sea level canal at an incalculably increased cost."

The Nicaragua Canal, supplemented by increased facilities for distribution by rail, is the great need of San Francisco and other Pacific coast ports. It will certainly change the highways of commercial transportation; but, where a temporary injury is inflicted, a three-fold compensation comes with the adjustment of the new conditions. Our coast, our country, and the world are ready for this great and beneficent enterprise. It will be a prosperous day for San Francisco when its wharves are crowded with ocean steamers which have passed "the Gate of the Pacific," and through the Golden Gate to our commercial metropolis. The ocean—God's great highway—will be open to us, with a reduction in distance of 10,000 miles to European and Atlantic seaports—two-thirds of the navigable distance discarded forever—nearly one-half of the earth's circumference. The American flag restored to the ocean; American seamen ready to defend their country abroad; increased markets for our producers; increased business for our merchants; increased values for our land owners; all these, with increased prestige and political influence to the great Republic will follow the opening of this ocean highway. Before the dawn of the twentieth century this will have been accomplished, marking another epoch in the commercial history of the world; a monument to American energy and a benison to mankind.

WILLIAM L. MERRY.

APPENDIX G.

NICARAGUA CANAL CONSTRUCTION COMPANY.

REPORT ON FINAL LOCATION OF THE CANAL.

(By A. G. MENOCAL, Chief Engineer)

NEW YORK, January 31, 1889.

To the President and Board of Directors of the Nicaragua Canal Construction Company: GENTLEMEN: I have the honor to submit the following report of the results of the final surveys for the location of the canal through the territory of the Republic of

Nicaragua and in that of Costa Rica, by the Nicaragua Canal Construction Company under contract with, and on account of, the Nicaragua Canal Association.

These surveys were commenced in the early part of the month of December, 1887, and were conducted with marked ability and uniform devotion to duty by eight well equipped parties, supplemented by a well-organized and efficient medical department and the necessary force of draughtsmen, artists, clerks, stenographers, and other subordinate assistants.

The eight parties comprising the regular field working force were divided as fol-

Six land surveying parties, each composed of one engineer in charge, four assistants, and from fifteen to twenty laborers.

One hydrographic party with one engineer in charge, three assistants and ten men.

One boring party in charge of an engineer, with ten laborers.

In addition to this permanent force, two or three smaller parties, each composed of one or two engineers and a sufficient number of assistants and laborers, were constantly employed in carrying out local surveys and reconnaissances, either in advance of the locating force or supplementing the location by local detailed surveys at places where additional information was regarded as necessary for a more perfect knowledge of the complicated topography.

This large and efficient force was kept constantly employed from the 15th of December until the latter part of June, when the advanced state of the work made necessary a reduction in the number of employés. In fact, at this time the canal had been located from the Atlantic to the Pacific, and but little information, and this not essential to the solution of the problem, but desirable only in order to arrive at the degree of accuracy prescribed by the company, remained to be obtained. Some of the engineers were then ordered to the company's office in New York, to be engaged in plotting and developing, in a comprehensive and concise form, the results of the field operations. The field working force was reduced to three surveying parties and the boring party, which force has been actively at work and is still engaged in making local surveys, cross-sectioning in the vicinity of the canal work, locating the flowage line in the San Francisco Basin and in the valley of the river San Carlos, and surveying for a canal between Lakes Managua and Nicaragua.

The work accomplished to the present time may be summed up as follows:

First. Location of the canal from the Pacific to Lake Nicaragua, with numerous cross-sections and the survey of the flowage line in the proposed basin in the valleys of the rivers Grande and Tola. Through these valleys two locations have been made, one for a canal in excavation throughout and the other for a canal partly through a deep basin. Both have been located with the same care and attention to detail. The estimate submitted with this report is based on the latter plan.

The proposed flooded area contains over 4,000 acres of grazing land, and the relative cost of the two methods of canalization can only be ascertained after this land has been legally condemned. Borings have been made at numerous points along the route, including the basin, the curves having been actually located on the ground and detailed surveys for artificial drains, embankments, and weirs, and of the sites of the locks, etc., having been elaborated for both plans, there need be no delay in the

progress of the work when a final decision is reached.

Second. The hydrographic party has completed the survey of the harbor of Brito, of the west coast of Lake Nicaragua, in the vicinity of the mouth of the river Lajas, of the east coast of the lake at Fort San Carlos, several local surveys in the river San Juan, and the survey of Greytown and adjacent coast and lagoons. These surveys have been carried out with remarkable skill and accuracy and very much in detail. In the lake the soundings have been carried out beyond the 40-foot contour, and offshore at Brito and Greytown to the 9-fathom line. In the inner harbors and in the rivers in the vicinity thereof the exact contour of the bottom can be determined by the numerous soundings taken. Observations for determining the currents, both inside and outside the harbors, for the direction of the winds, and for the rise and fall of the tide, have also been taken. All this comprises a mass of most valuable data, which has been used to great advantage in designing the necessary work for the improvement of the harbors and in estimating the amount and cost of the dredging required therein.

Third. Local surveys have been made in the river San Juan at all places where the data on hand were deemed insufficient for a close estimate of the amount and cost of excavation needed, or to determine with reasonable precision the difficulties likely to be encountered in the construction of dams, embankments, or other works entering

as important factors in the general scheme.

Fourth. The river San Carlos has been surveyed from its confluence with the San Juan to a point about 3 miles above its tributary "Tres Amigos," where the contour 106 feet above sea level was reached. From that point this 106 feet contour has been instrumentally located, east of the main river, and up both banks of all its tributaries coming from that side, following all the sinussities in the expansions and contractions of the valley until Ochoa was reached, at the south abutment of the proposed dam across the river San Juan, thus establishing, beyond a doubt, the practicability, at a comparatively small cost, of impounding the waters of the San Carlos at the elevation of 106 feet above sea level, as raised by the proposed dam at Ochoa.

Fifth. The survey of that region from the valley of the Machado above the site of the dam at Ochoa to Greytown has been the subject of much labor and serious consideration, and has consumed much time, and not less than four-fifths of the labor of the expedition. The primeval condition of the country, covered as it is with dense vegetation and high forest growth, through which no extended view can be obtained from any point, of itself renders an accurate knowledge of its topographical features both laborious and difficult to obtain; but if I add to this the absolute want of means of communication except by canoe through capricious water courses, of which but little information has been acquired by previous explorations, and an unusually complicated topography, in which extensive swamps and more or less connected ranges of hills are constantly met with in such an irregular and unexpected manner as to baffle completely all calculation as to its actual condition without an instrumental examination of every inch of the ground, some idea may be gathered of the difficul-ties with which we have been confronted.

Two routes through the last mentioned region had been proposed by previous surveys; and it was the object of the association to make a thorough examination of the entire area so as to eliminate all doubtful questions, and, with a perfect knowledge of all the conditions involved, to select that route presenting the greatest facilities for the construction of the canal, both in regard to the economy and permanency of

the work.

One of the routes extends on a nearly direct line from Ochoa to Greytown, and has been designated the "Upper route" by reason of its being located in the upper part of the valley and its most striking feature of retaining and extending the summit level to within a short distance of Greytown itself.

The other is known as the "Lower route," since it descends to the valley level of the San Juan a short distance below Ochoa, stretches along and at several points runs in close proximity to the bank of the river, until it reaches Punta Petaca, above the San Juanillo, where it turns to the north, and by a straight line reaches Greytown at about the same point as the "Upper route." This route was located by the United States surveying expedition of 1872-773, and the former was the result of my surveys of 1885, conducted by order of the same Government. The work of relocation was undertaken for both routes from end to end with the whole force of the expedition, previous explorations and surveys being ignored except for the information to be derived therefrom and for purposes of comparison, the object being to improve, if possible, on what had already been done. It required the constant labors of six surveying parties, and the boring party six months, before the location of the two routes had been elaborated and advanced to the point where a fair comparison of their relative merits could be made; and, since the selection of the "Upper route," two parties have been engaged for five months in perfecting the location and gathering such a mass of valuable information as to leave no doubt whatever regarding its superiority, and the amount and character of all the work involved in the construction of the canal. No problem has been left unsolved, and what is now presented as the result of these arduous labors is an actual representation of the natural conditions.

THE PROPOSED ROUTE.

The proposed route from the Atlantic to the Pacific is in general direction and, with but slight modifications, identically the same as that proposed by me in 1885. changes introduced consist principally in the addition of two new basins, and the extension of free navigation in the San Francisco Basin, by which the length of canal in excavation has been considerably reduced, with proportionally increased facilities to navigation, and the problem of draining the country traversed by the canal satis-

factorily solved.

San Juan del Norté (Greytown) on the Atlantic, and Brito on the Pacific, are the termini of the canal, the total distance from port to port being 169.448 miles, of which 26.783 miles will be excavated canal, and 142.659 miles free navigation by Lake Nicaragua, the river San Juan, and through basins in the valleys of the streams Deseado, San Francisco, and Tola. Lake Nicaragua is necessarily the summit level of the canal, and its elevation above mean sea level is taken at its mean as 110 feet. It will be connected with the Pacific by two sections of canal in excavation and the Tola Basin, and with the Atlantic by slack-water navigation through the valley of the river San Juan, and a series of basins in the valleys of the San Francisco and Deby three locks which have been located as near as possible to the extremities of the canal, viz, 3\frac{1}{2} miles from Brito and 12\frac{3}{2} miles from Greytown, thereby giving a clean summit level of 153\frac{1}{2} miles in extent out of a total distance of 169\frac{1}{2} miles, as stated above. For the purposes of this report the whole route has been divided into four divisions, viz, eastern, San Francisco, Lake and River, and western.

Eastern division.

[From the inner harbor of San Juan del Norté (Greytown) to the San Francisco Basin, 18.864 miles.]

The line selected and located starts from the inner harbor of San Juan del Norté, and extends in a southwesterly direction for a distance of 9.297 miles to Lock No. 1, in the valley of the small stream Deseado, which descends from the high ridge separating the valley of the San Juanillo from that of the Cano San Francisco. Where the stream Deseado interferes with the course of the canal it is to be diverted by artificial channels. The first 9.297 miles of canal will be at the level of the sea, forming, practically, a prolongation of the harbor of Greytown, the width proposed allowing ample room for the passage of vessels going in both directions. The excavation will be entirely through flat alluvial deposits, as shown by the numerous borings taken along the whole line.

The first lock from this reach will have a lift of 30 feet, and the uniform dimensions of chamber adopted for all the locks, viz, 650 feet long and 70 feet wide. A suitable bit of high ground for the site of the lock is met with in the lower valley of the Deseado. From the head gate of Lock No. 1 to Lock No. 2 the canal follows the valley of the Deseado, which is here partially flooded by the construction of four low embankments connecting the site of Lock No. 1 with the sides of the valley. In this manner the canal excavation, which here consists chiefly of a stiff, red clay, underlying a thin strata of loam, is much reduced, and the drainage economically and efficiently controlled by suitable weirs of maximum flood capacity.

Lock No. 2, located 1.258 miles above the head gate of Lock No. 1, has a lift of 31

feet and will rest on solid ground, a hill on the south side of the valley affording an

excellent site for it.

Lock No. 3, with a lift of 45 feet, is located 123 miles from Greytown and 1.927 miles from the head gate of Lock No. 2. This section of the canal occupies the lower basin, made in the valley of the Deseado by the erection of a dam 38 feet high and 1,300 feet long across the stream, and two embankments of an aggregate length of 1,400 feet and about 20 feet high on the top of the confining ridges. The only excavation needed through this basin is in cutting across three low hills of red clay

At this point the valley of the Deseado is spanned by an embankment 70 feet high and 1,050 feet long, resting on two high hills, and the gaps on the ridge connecting this embankment with the sides of the valley are closed with smaller embankments, aggregating 5,800 feet on the crest, with an average height of 20 feet to the level 112 teet above sea level. By this means a basin 3.086 miles long is created in the valley of the stream, in which a depth of from 30 feet to 70 feet is obtained, without exca-

vation, for a distance of 2.598 miles. It is proposed to retain the water in this basin at an elevation of 106 feet above sea level; in other words, the summit level of the canal is carried across the "divide" and extended to Lock No. 3, or to within 121 miles of the Atlantic, and but 34 miles from the sea level, which, as stated above, reaches 94 miles up from Greytown. The advantage of these two large reservoirs in close proximity to the locks need not be commented upon, and the facilities afforded as a "turn out" for ships in waiting and traveling in opposite directions can not be overestimated. The dam is proposed to be built of stone, or what is termed "rock fill" with earth backing, and will have a weir 600 feet long on the crest, and a fall of 45 feet, for the discharge of the surplus water into the lower basin. This will be supplemented by another weir 800 feet long located on the south side of the valley in a gap between the hills inclosing the upper basin, giving a total length of weir of 1,400 feet.

At the western end of this basin begins the "eastern divide cut" connecting the valley of the Deseado with that of the Caño San Francisco. This cut is 2.917 miles long, has a maximum cut of 298 and an average depth of 111,2 feet above the level of the water, the depth in the canal being 30 feet, and contains about 21 per cent. of the

total excavation estimated for the whole canal.

The magnitude of this work grows less striking as we proceed to examine its importance as a factor in the solution of the problem, the local advantages for its execution, its permanency when finished, and the advantageous and economical disposi-

tion of the material to be excavated.

First. It will be observed that this cut is almost in a direct line between Ochoa and Greytown, which are the two objective points of the canal; the former being the point at which it must of necessity leave the San Juan River, and the latter equally necessary at its terminus on the Atlantic.

Second. It is the lowest point along the whole ridge which intervenes between those

two points, and nearly equidistant from each.

Third. It is also the narrowest pass, by several miles, of any other on the ridge, the valleys of the Deseado on one side and the San Francisco on the other here penetrating it further than elsewhere, thus allowing the greatest possible extension of their basins with the least excavation.

Besides the above there are several other important advantages connected with

this particular pass entitled to much consideration.

First. The material to be removed is in the main solid rock, therefore the volume of excavation is reduced to a minimum, and the cut when made will remain so for-

ever without further expense.

Second. The material is needed for the construction of the dam at Ochoa, for the embankments between Ochoa and Greytown, for the construction of the locks, for the breakwater at Greytown, and for pitching the sides of the canal, and whatever is left over can be dumped in the immediate vicinity.

Third. The center of distribution is most conveniently located, and were not this

material available, at the sole expense of transportation down grade, it would have to be obtained at considerable cost from quarries in the vicinity, as there is no rock

easy of access between Ochoa and Greytown, except in this ridge.

Fourth. The locality is one of the healthiest in Nicaragua, the drainage is perfect, and water abundant and excellent for domestic uses.

Fifth. There is close at hand on both sides of the ridge an inexhaustible water power for the economical and convenient operation of all the machinery required to do the

Posessing, therefore, as it does, this truly marvelous coincidence of favorable circumstances, it would seem as though the very hand of Nature had made this particular spot with the view of facilitating the execution of the greatest undertaking of this or any other age. With proper appliances and good management, so much of the work in the adjacent sections being dependent upon the material to be got from this cut, an even rate of progress can easily be maintained and the whole work be pushed to completion well within the six years estimated as the time for completing the canal.

San Francisco division 12.500 miles.

[From the western end of the Divide Cut to the river San Juan at Ochoa.]

On the western slope of the Divide the canal follows the valley of the Limpic for 1,477 miles to the end of the Cut. Before falling into the San Francisco basin it passes for .738 miles through a rolling country into the lower valley of the Limpio, the average depth of the cutting for this distance being 16 feet above the bottom of the

Passing into the basin of the Caño San Francisco it follows the valleys of the Limpio and Chanchos to near the confluence of the latter with the San Francisco, and then

up the valley of the stream, skirting the hills on the west to a favorable pass in the range separating this valley from the swampy region, called Florida Lake, extending towards Ochoa. The line of location follows this swamp to its western extremity, where it strikes the high rolling country intervening between this low region and he valley of the Machado; and following a tributary of the latter, it strikes the ne variety of the machado, and following a tributary of the distance from the river San Juan 1,600 feet above the mouth of the Machado. The distance from the western end of the Divide Cut to the bank of the river San Juan is 12,500 miles, of which 7.481 miles are tangents and 5.019 miles comprised in eleven curves of from 4,000 to 11,459 feet radius. The hills surrounding the basin on the south do not form an unbroken range rising at all points above the level of the water, which in this section also is maintained at 106 feet above sea level. Eight gaps will have to be closed by embankments aggregating in length to 2,440 feet measured on the valley floor, and 12,260 feet on the crest, the maximum depth being 60 feet below the level of the water in the basins.

In addition to the above, 59 smaller embankments, aggregating in length 18,280 feet on their crest, rising 6 feet above water level and varying in height from 1 to 50 feet, will be required from Ochoa to the main ridge of the Divide. All the embankments resting on the valley or swamp level are designed of rock fill and earth back-

ing, with three parallel rows of sheet piling between abutments.

The total length of basin secured by this plan is 11.267 miles from flowage line to flowage line, of which 8.697 miles is in water varying from 30 to 60 feet in depth. That is, of the 12.500 miles in the division, but 1.233 miles will be wholly and 2.570 miles partly in excavation. This is not, however, the only advantage gained by the creation of this basin. Without it the cut across the "Divide" would be of such proportions as to make the route commercially impracticable, and the basin of the Deseado an impossibility. Not less important are the additional considerations of free navigation through a wide and deep basin, instead of a restricted excavated In the former vessels can travel at full speed, lie at anchor or pass each other at all points, while in the latter the position and speed of all ships must conform to rigid regulations.

Attention is also invited to another striking feature of this work, as compared with

that close to the bank of the San Juan.

In a country subject to observed rainfalls of more than six inches in 24 hours, the problem of drainage involves dealing with forces of Nature whose enormous destructive powers are a constant menace to engineering works, however careful and skillful their design and execution. And it is of the utmost importance, therefore, to reduce these forces to a minimum before the construction of works to withstand them. large territory embraced between the ridge confining the basin to the south and the "Lower Route" is, by the adoption of the "Upper Route," entirely eliminated from the problem of drainage, leaving only that portion of the watershed north of the ridge from the Divide to the valley of the Machado to be provided for. The area of this catchment basin is about 65 square miles.

It is proposed to build all embankments across the valleys in the disconnected portions of the ridge of "rock fills" and earth backing, the crest to be 107 feet above sea level, and with the top and outer slope so shaped and paved with large stones as to admit the free flow of water over the surface without danger of injury, all other embankments to be 112 feet above sea level. All these embankments will be, in fact, so many waste weirs for the discharge of the surplus water at several points in the basin, with an aggregate length of 4,720 feet of spillway and assuming that the embankments are perfectly tight, which will not be the case until several years after

construction, and therefore that all the surplus water passes over the weirs the maximum thickness on the crest will not exceed 15 inches.

An extraordinary freshet in the San Juan above the dam would probably cause some of the river water to flow towards the basin, but it will be observed that the weirs in the basin alone are capable of discharging 90,200 cubic feet per second before the water reaches the top of the higher embankments, and that, in such extreme cases, the basin would also be discharging through the divide cut, over the Deseado Dam and weirs, and, if need be, through the culverts of Lock No. 3. As an additional precaution, a guard gate is provided in the first cut east of the Machado, by which the waters of the river San Juan may be shut off from the basin. With these ample provisions the destruction of the smaller earth embankments by an overflow of the basin seems to be well guarded against.

Lake and river division, 121.04 miles.

[From Ochoa to the western coast of Lake Nicaragua.]

This division extends from the western extremity of the San Francisco division in the valley of the Machado to the entrance of the canal on the west shore of Lake Nicaragua. The total distance is 121.04 miles, divided as follows: Navigation by the

river San Juan, 64.54 miles; Lake navigation, 56.5 miles. The section of the river from Ochoa to the lake is to be made navigable by the construction of a dam at Ochoa, just below the Machado, maintaining the water at the summit level of 106 feet above sea level. It may here be explained that this elevation, hitherto reated as the summit level, is 4 feet below the lake, a fall of three-quarters of an inch to the mile being allowed for the slope necessary to discharge its waters, although, for all the purposes of navigation, that portion of the river is converted into an extension of the lake.

The dam is located between two steep hills, and its length of weir on the crest will be 1,250 feet, and abutments 650 feet. The average depth of the water in the river was at the time of the survey 8 feet, and the maximum depth, close to the southern abutment, 14 feet, the width between banks being 950 feet. With a mean flow in the river of 20,000 cubic feet per second, the thickness of water on top of the weir will

be about 31 feet.

The dam is proposed to be built of rock fill and earth backing, in all respects similar to all the other large embankments and weirs already described. Its average height above the river bottom is 61 feet, its thickness at the top 25 feet, and at the bottom 500 feet. The core of the rock portion will be made of smaller stones, gravel, and refuse from the rock cuts, with three rows of sheet piling from abutment to abutment, and substantial concrete core walls from the ends of the sheet piling carried well into the abutment hills and up along the slope beyond the maximum flood level. The upper portion and long flat apron will be composed of stones of the largest dimensions that can be properly handled and arranged, the interstices being filled from behind with small stones, gravel, and earth dumped from suitable trestles.

By this dam, slack-water navigation in the river San Juan will be obtained in the whole distance from the lake, in which, with the exception of the 28 miles above Toro Rapids, the navigable channel will be at no point less than 1,000 feet wide, with depths varying from 28 to 130 feet. Between the Lake and Toro Rapids, rock blasting under water and dredging to an average depth of 4½ feet will be required at several places, amounting in all to 24 miles, most of the rock blasting occurring at Toro. The average depth of water as raised by the dam over the shallow places,

where deepening has been estimated for, is 23 feet, and the excavated channel is 125 feet at the bottom, the slopes varying with the character of the material.

A further important effect of the dam will be to raise the water of the river San Carlos to the level attained by the San Juan at their confluence above Ochoa, converting the valley of that stream into a spacious lake or port, and an integral part of the summit level and of the canal itself. Thousands of square miles of the territory of Costa Rica now inaccessible by land or water will thus become the richest portion of that Republic; and the sediment now being brought down by the rapid current of the river will then be deposited, for want of transporting power, at the mouths of the ravines and mountain torrects emptying into the basin. In fact, the area now scoured will be so much reduced that comparatively little material will be transported.

The confining ridge to the east of the valley of the San Carlos is a generally high range extending in a nearly straight line from the south abutment of the Ochoa Dam about S. 15° W. 7; miles to the foot of the high mountains of the interior. of the ridge following its crooked crest line is about 10 miles. The hills forming the ridge do not form an unbroken range at all points higher than the level of the water which is here also maintained on 106 feet above sea level. A number of short depressions will have to be closed by embankments, the tops of which will be at an

elevation of 112 feet.

The total number of embankments necessary is twenty-one. Of these eight will be very small, the ridge being now above the water line but below 112 feet. Only two will reach the floor of the valley, having a depth of 48 feet. The remaining eleven have an average depth of 19 feet. The aggregate length of embankments on crest is 5,540 feet; on floor of valley, 130 feet.

The embankments proposed will be entirely of clay, 15 feet wide on top, with slope

of 3 to 1 on both sides.

It is proposed to build a large waste weir in the ridge about 21 miles from the Ochoa This weir having its crest of 106 feet elevation will discharge the flood waters of the San Carlos into the San Juan independently of and below the dam.

The valley of Cureño Creek runs directly from the site of the proposed weir to the San Juan, 51 miles below Ochoa, hence no channel for the discharged waters need be

provided.

In the east side of Lake Nicaragua dredging in soft mud will be needed for a distance of about 14 miles to reach the depth of 30 feet, the average depth of the cut being 9.8 feet, and the proposed channel 150 feet wide at the bottom, with side slopes of 3 to 1 to the present bottom of the lake.

From the end of this cut to within 1,400 feet of the west coast, at the entrance of

the canal, the depth in the lake varies from 30 to 150 feet. The excavation on the

west side is estimated as rock. No borings were taken on this side of the lake, but the indications on the shore and the result of the borings in the vicinity point to

rock as predominating in the submarine excavation.

In view of the nature of the bottom and the prevailing winds on that coast of the take, it has been deemed advisable, if not essential, to estimate for two crib piers or breakwaters at the entrance of the canal and extending to deep water, a distance of 1,800 feet and 2,400 feet, respectively. These piers will have the effect of arresting débris traveling along the coast by the action of the waves, insure smooth water at the entrance of the canal, and serve as guides to approaching vessels.

Western division.

[From the lake to Brito, 17.04 miles.]

This section of canal connects the lake with the Pacific Ocean. It is 17.04 miles long from the shore of the lake when at 102.5 feet above sea level, the elevation at the time the surveys were made, to the port at Brito.

As the canal is now estimated for, 11.44 miles of that distance will be wholly in excavation and 5.60 miles through a basin in the valleys of the rivers Grande and

Tola.

In this basin from 30 to 70 feet of water can be had for a distance of 4,568 miles. The basin has an area of 4,000 acres, an extreme width of 12,500 feet, and an average of 5,500 feet. An alternative route has been located through the valleys proposed to be flooded, for a canal in excavation, should it be found more economical on account of the value of the land through which it passes. The only new feature of this divis-

ion is the basin now introduced.

The first section begins at the mouth of the river Lajas, on the west shore of Lake Nicaragua, and follows the valley of that stream for a distance of 8,260 feet, in which the width of the canal is 120 feet at the bottom and the side slopes 1½ to 1, both in rock and earth. The river Lajas here turns to the south, and it is proposed to divert it and make it discharge into the lake a short distance south of its present mouth. The canal continues on the same straight line, crosses a plain about three-quarters of a mile wide, and enters the valley of the Guiscoyal, a small tributary of the Lajas, and at 4.70 miles from the lake it crosses the highest elevation on the line between the lake and the Pacific. This point is 42 feet above high lake, or 152 feet above mean tide in the Pacific, and is situated in a valley about 2 miles wide, deserving special mention by reason of the fact that it is the lowest depression of the main ridge between the Atlantic and Pacific Oceans on the American continent.

After crossing this divide the line gradually descends at the rate of about 9 feet per mile and in 12 miles further it meets the Rio Grande, a mountain stream which drains an extensive area of the western slope of the Cordillera. The line of the canal follows the tortuous channel of the Grande, cutting across some of its sharp bends or occupying the channel in short reaches. In 1½ miles it frees itself from this contracted valley and cuts across a broad plain as it turns to the westward, and enters the basin of Tola 9 miles from the lake. The distance across the basin by the sailing line is 5.504 miles. This basin is formed by the construction of an embankment 1,800 feet long and 70 feet high, resting on two high hills at a place called La Flor. The method of construction of this embankment is in all respects similar to that adopted for the construction of the Ochoa Dam and embankments in the San Francisco Valley. The rock for the fill will be obtained from the excavations for Locks Nos. 4 and 5 in the north abutment, and the earth from the canal excavation east of the basin. The level of the lake will be extended through the divide cut and the basin to this dam, the top of which is established at 112 feet above sea level. Therefore the lake will have to rise more than 2 feet above the proposed summit level before any water runs over the weir. With a length of weir of 1,300 feet and the lock culverts capable of discharging not less than 4,500 cubic feet per second, the level of the lake can be of discharging not less than 4,500 cubic test per second, the level of the land call kept under control, even in extraordinary floods. Yet a guard gate is proposed in the section of canal between the lake and the divide to shut off the water from the lake in case of necessity. No special provision has been made for the control of the rivers Grande and Tola, and none is deemed necessary. These streams will flow into the summit level, one between the lake and the Tola Basin, and the other at the northern extremity of the basin. The waters will be distributed between the basin and the lake or partly used for feeding the locks, and should both rivers be in flood while the water in the basin is below the crest of the weir, and therefore most of the combined flow discharging into the lake, the current in the canal through its narrowest portion in the divide will not exceed 2 miles an hour, which can do no harm in the rock cut, while in the larger portions of the canal the velocity would, of course be proportionally less.

From the western end of the valley of Tola to Brito, the canal, after leaving Locks Nos. 4 and 5, cuts across a broad, flat country, with an inclination of about 9 feet per

mile, to the port, a distance of 2.28 miles, in which the excavation does not exceed

that required for the canal prism.

These locks are proposed to overcome the difference of level between the summit and the Pacific. Locks Nos. 4 and 5 are located in the hill north of La Flor dam; their chambers are 65.) feet long and 70 feet wide and the lifts 42½ feet in each. Lock No. 6, of the same dimensions of chamber, is situated 1.58 miles below, its lifts being 21 feet and 29 feet, respectively, at high and low tide. Between this lock and the port of Brito, a distance of 0.57 mile, the canal will be at the level of the sea, with an enlarged section, and may be regarded as an extension of the harbor similar to that at the Greytown end of the route.

HARBORS.

Greytown.—The observations and surveys conducted by the hydrographic party and subsequent investigations by other engineers of the company have fully confirmed the theory based on previous surveys as to the nature and magnitude of the forces which caused the destruction of this harbor and consequently the plan heretofore recommended for resisting these forces and restoring the harbor is now adhered to with but slight modifications in the details.

The plan of restoration involves the construction of a jetty or breakwater 1,700 feet long, nearly normal to the shore of the outer bar and extending to the 6-fathom curve, and dredging from this latter depth offshore across the sand bank now closing the harbor and in the inner bay. The jetty is located to the windward of the excavated channel which it is intended to shelter from the sea and protect from the

wash of the waves and the traveling sands of the coast.

The first section of the jetty, extending from the shore to 15 feet of water, is proposed to be built of crossoted timber, fascinage, and stone, and that portion in deep water to be of "pierre perdue" or rubble, the stone to be obtained from the divide cut. The entrance channel is estimated to have a depth of 30 feet and a width of 500 feet at the bottom, and the inner basin is designed of sufficient dimensions to afford easy access to the canal and to accommodate a large number of vessels, its excavated area on the bottom being 206 acres, which, with the area of the enlarged section of the canal at sea level to Lock No. 1, gives a total area of 341 acres of water 28 feet deep, exclusive of slopes of 3 to 1 and the remaining portions of the inner bay not deepened, yet having in many places a depth of 20 feet, in which a large number of vessels of ordinary size can lie.

Brito.—The recent surveys have greatly added to previous information as to the natural conditions of this locality, which by reason of its being of necessity the terminus of the canal on the Pacific coast, has been spoken of as "the harbor," when, as remarked by Professor Mitchell, it is not even a roadstead. Yet the practicability of constructing a harbor at this point has not been disputed, the only difference of opinion being confined to details. The plan now proposed combines as nearly as possible the most economical form of construction with that best adapted to the physical conditions, and meets, it is believed, most effectually the objections raised against

former designs.

The broad valley of the Rio Grande stretches to the coast at this point through a wide gap in the main range of hills extending along the Pacific coast. This valley, it is believed, formed once a considerable bay, but is now filled up for a distance of about 6,000 feet from the beach to about the level of high water. The proposed plan for the construction of the harbor consists, first, in a breakwater 900 feet long, extending from a rocky promontory projecting from the beach at the western extremity of the range of hills, and second, another jetty 830 feet long, normal to the beach nearly opposite the extremity of the one before mentioned. The proposed harbor will be partly in deep water confined by the jetties, but its main portion is proposed to be excavated in the alluvial valley, the whole forming a deep and broad basin penetrating 3,000 feet from the present shore line at high water and 3,900 feet from the entrance between jetties. As an extension of the harbor, the canal itself is excavated at sea level with an enlarged prism for a distance of 3,000 feet further inland, where the tide lock has been located. It is believed that with the basin as designed and the prolongation of the sea level through the canal sufficient tranquillity will be secured at the lock and in the harbor, but should this prove not to be the case an enlargement of the main basin by dredging in soft material would be a question of but comparatively small expense.

The breakwaters as estimated for are of "pierre perdue," the material to be obtained from the rocky promontory or from the western divide cut, the price allowed being on the latter basis. The harbor has an area of 95½ acres on the bottom or excavated portion, and with the sea-level section of the canal the total area is 103½ acres

of water, 30 feet deep, exclusive of the slopes of 3 to 1.

MATERIALS FOR CONSTRUCTION.

As has been stated in previous reports the whole line of the canal is well supplied with timber, generally of excellent quality, though in some sections of the eastern

division it has been deemed advisable to estimate for its use only on temporary works during construction, such as trestles, laborers' dwellings, etc., the sheet piling and most of the bearing piles being imported from the Southern States and creosoted where necessary. On the western division, however, the wood growing on ground less moist is or a very superior quality and it is proposed to use it for all purposes, its durability having been amply proved in every class of construction throughout the country.

The rock proposed to be used for the dams, weirs, and breakwaters will be got from the divide cuts, which consist chiefly of basalt and various descriptions of trap of

excellent quality for the purpose.

Lime of the best quality is obtainable in the western division at many places and the numerous specimens of work on which it has been used have stood the test of many generations and are to-day in a state of preservation, but it is calculated to supplement this supply with imported cement, which will be used largely in the form of concrete in the construction of locks, etc., clean sharp sand being found in great abundance in the beds of most of the streams in the vicinity of the canal.

DIMENSIONS AND CAPACITY OF THE CANAL.

In establishing the dimensions of the canal it has been my purpose to profit by the experience of the Suez Canal, where a yearly traffic of 6,000,000 tons could not be carried through without serious delays to navigation. The reduction in the length of excavated canal accomplished by the last location in Nicaragua through the substitution of free navigation in deep and broad basins for a restricted channel, gives additional facilities for the construction of a water way capable of accommodating not less than 12,000 vessels with a net tonnage of 20,000,000 a year at but a small increase cost as compared with the advantages secured, both for the commerce of the world and the economical administration of the enterprise. In fact, the immediate and prospective benefits obtained by the enlargement, in the increased facilities for passing vessels and a considerable decrease in the cost of maintenance and preservation of the work, fully justify, it is believed, the additional expense in the original cost. It will be seen on examination of the subjoined table that, of the 169.448 miles, the total length of the canal from the Atlantic to the Pacific, 121.04 miles is unim-peded navigation in the River San Juan, and in Lake Nicaragua, and 21.619 miles through basins, making a total distance of 142.659 miles in which ships can travel with little or no restriction as to speed. Of the remaining 26.789 miles, .759 is taken up by the six locks leaving but 26.030 miles of canal actually in excavation. Of this latter distance 18.189 miles are of canal large enough for vessels traveling in opposite directions to pass each other, the sectional area being in excess of the largest area of the Suez Canal. The two sections of canal with contracted prisms are in the eastern and western divide cuts; the first is 2.917 miles and the other 4.924 miles in length and located as they are almost at the extreme ends of the summit level, and in close proximity to the upper locks it is believed that the slight additional facilities to navigation secured by enlarging the dimensions of the canal in these heavy rock cuts, and the inconsiderable gain in the time of transit would not compensate for the larger outlay necessary.

Table showing the dimensions of the several sections of the proposed canal.

Section of canal.	Length.	Width,	Width, bottom.	Depth.	Area of prism.
Greytown to Lock No. 1 Lock No. 1 to Lock No. 2 (canal). Lock No. 2 to Lock No. 3 (canal). Lock No. 2 to Lock No. 3 (basin). Lock No. 3 to western end of eastern divide cut (canal). Lock No. 3 to western end of eastern divide cut (Deseado basin) Western end of divide cut to Ochoa (canal). Western end of divide cut to Ochoa (San Francisco basin). River San Juan to Toro Rapids River San Juan where dredging is needed. Lake Nioaragus. Lake to western divide cut (canal). Western divide cut (canal). Divide cut to cast end of Tola basin (canal). East end of Tola basin to Lock No. 4 (basin). Lock No. 5 to Lock No. 6 (canal). Lock No. 5 to Lock No. 6 (canal).	Miles. 9, 297 1, 258 1, 65 1, 762 2, 917 8, 086 1, 233 11, 287 87, 040 27, 500 56, 500 1, 565 4, 924 1, 582 570	Feet. 288 210 210 80 184 210 80 184 184 288	### Feet. 120 120 120 120 80 80 125 150 120 80 80 80 121 80	Feet. 28 30 50 40 *45 30 40 *52 *28 *50 30 30 *50 30 28	Sq. feet. 5, 712 4, 950 4, 950 2, 400 (f) 3, 673 (f) (f) (f) (f) (f) (f) (g) 2, 400 3, 673 (f) 2, 400 3, 673 (f) 3, 673 (f)

RECAPITULATION.

Canal in excavation, east side Canal in excavation, west side Six looks, both sides	11. 160
Total canal in excavation	26, 789
Basins of the Deseado	
Total length of basins	21. 619
River San Juan Lake Nicaragua	56, 500
Total natural water ways. Total length of canal (from the Atlantic to the Pacific)	

In the lake and in the greater part of the River San Juan vessels can travel with unrestricted speed, and in some sections of the river and in the basins, although the channel is at almost all points deep and of considerable width, yet the speed will be somewhat checked by reason of the curves.

Official reports show that, in the Suez Canal, steamers of 4,400 tons can travel at an average speed of 6 statute miles per hour, and that smaller vessels travel through the canal at the rate of from 6 to 8 miles an hour. On this basis the following estimate of the time of transit has been prepared:

Estimated time of through transit by steamer.

	н. м.
26.030 miles of canal, at 5 miles an hour	5 12
22,619 miles in three basins, at 7 miles an hour	3 05
64.540 miles in the River San Juan, at 8 miles an hour	8 04
56.500 miles in Lake Nicaragua, at 10 miles an hour	5 39
Six lockages at forty-five minutes each	4 30
Allow for detentions in narrow cuts	1 30
Total time of transit	28 00

The traffic of the canal will be limited by the time required for avessel to pass a lock, and on the basis of forty-five minutes, and that but one vessel will pass in each lockage, the number of vessels that can pass through the canal in one day will be 32 or in one year 11,680, which at the average tounage of vessels going through the Suez Canal, will give an annual traffic of 20,440,000 tons. This estimate is on the assumption that the traffic will not be stopped during the night, for with abundant water power at the locks and at the basins the whole canal can be economically illuminated by electricity, and with beacons and range lights in the lake and river there seems to be no good reason why vessels should not travel day and night with perfect safety, and the outlay necessary for the illumination has consequently been included in the estimates.

Water supply.

Lake Nicaragua has a surface area of about 2,600 square miles, and a watershed of not less than 8,000 square miles. Gauges of its outlet, the River San Juan, at its lowest stage between the lake and Toro Rapids showed a minimum flow of 11,390 cubic feet per second. Colonel Childs estimated the discharge with full lake in the wet season at 18,059 cubic feet per second, which gives a mean flow of 14,724 cubic feet per second, or 1,272,530,600 cubic feet per day.

Water required for lookage.

Water required for one lockage:	Cubic feet.
On the east side	2, 047, 500
On the west side	1,933,750
On both sides	3, 981, 250 127, 400, 000

This gives a daily excess for the lake supply only of 1,144,753,600 cubic feet.

To the latter amount must be added the flow of the several tributaries of the San Juan River between the lake and the Ochoa dam, and also the tributaries of the basins forming part of the summit level, which would fully compensate for leakage and evaporation.

It is expected that considerable leakage will take place at the rock-fill dams and embankments before they consolidate and become tight, but this may well be accepted as a desirable condition to aid in gradually disposing of the surplus water

without a large discharge over the weirs.

The above statement shows that the lake discharge is abount ten times larger than the maximum amount needed for the canal, and it may be safely estimated that for many years after the canal is opened for traffic, the surplus from that source alone will be double that amount, while at the confluence of the rivers San Juan and San Carlos, above the Ochoa dam, the excess may even reach forty times the quantity needed for the canal. It is evident, therefore, that as long as the summit level can be maintained at the required elevation, the leakage through the rock fills, acting as safety valves, may be regarded as an element of security rather than one of danger, especially as the tightening of the dam can be regulated by depositing suitable material on the upstream side or by dumping more stone on the lower slopes or on the crest, so as to preserve the desired elevation of the surface of the water.

ESTIMATES.

The estimate of the cost of the canal, submitted with this report, is the result of careful computations of all the works required for the completion of the canal and its accessories, based upon the data obtained by the last location with numerous borings Where no rock was met with the borings were carried to the along the whole route. bottom of the canal, and all material which the auger or hand drills could not penetrate has been assumed to be, and estimated for, as rock. The result is a much larger amount of rock in proportion to the cube to be removed than had been estimated before; and although the length of canal in excavation has been reduced by 13.5 miles and the total amount of excavation by 3,567,565 cubic yards, in that portion covered by the report of 1885, yet the cost of that item of expense is now put down at \$31,-936,136.05 as compared with \$33,447,338.80, in 1885. It is believed that when a more effective system of drilling is applied in certain portions of the line a much smaller amount of actual work will be found than now appears on the estimate. In the meantime the error, if any, is made on the safe side. The eastern "divide cut," of but less than 3 miles in length, is represented in the estimate with 7,000,230 cubic yards of rock in place and 22 per cent of the cost of the whole work, and reference has been made, in describing the eastern division, to the existing facilities for doing this work and to the several purposes to which the material to be removed can be advantageously applied in the construction of the canal for the expense of transpor-

In the western division the excavation in rock through the divide cut is estimated at 5,696,507 cubic yards in a distance of 9 miles, but that work presents no serious difficulties, the maximum depth of excavation being only 42 feet above the surface of the water in the canal, and the mean only 20 feet, with ample facilities for disposing of waste material not needed for the construction of the breakwaters, the locks.

the embankments, and pitching the slopes of the canal.

A comparison of the figures given in the estimate with those of the 1885 report discloses what at first sight appears to be an inconsistency, viz, an increase in the total estimated cost of the canal of \$1,047,978.25, and a decrease in the length of actual canal to be excavated of 13.5 miles, and in the cube to be removed of 3,567,565 cubic yards, as stated before. It will, however, be observed that the surveys made by the expedition of 1885 were confined exclusively to the land portions of the canal, the estimates for the other portions being based on previous incomplete hydrographic surveys, while the recent location, covering, as it does, the whole line from ocean to ocean, has produced the following results:

First. A reduction of the quantities in all the sections actually located by the 1885 expedition, by the introduction of basins, etc., and certain modifications in detail in the location, thus: 54,015,602 cubic yards excavation in canal proper in 1885 report, and 50,448,037 cubic yards by present estimate, a difference of 3,567,565 cubic yards in favor of the new location; though, with regard to cost, this has been more than balanced by the increase in the proportion of rock now estimated, as already explained.

Second. In all the work connected with the lake and harbor of Greytown the increase in consequence of the more accurate data now obtained is, for excavation in the lake 4,902,908 cubic yards, against 877,675 cubic yards in 1885, and in the harbor of Greytown 9,550,000 cubic yards, against 4,080,100 cubic yards. Besides the addition of certain other improvements, which have been spoken of in the body of this report, fully explaining the apparent contradiction between the claims and the results of the

recent expedition, and giving further evidence of its extensive scope as well as its minute attention to detail, making it, as claimed, an improved location, the estimated cost only increased by more accurate knowledge of the country and conditions.

Of the 20,789 miles of canal in excavation, more than 12 miles will be done by dredging, the material to be deposited directly on both sides of the cut, and the short cuts in the San Francisco division, amounting in the aggregate to 1; miles, are subdivided in small sections across narrow ridges separating deep valleys, where the excavated material not needed for embankments, can be dumped in the immediate

vicinity.

A railroad has been estimated for from Lock No. 1 to the dam at Ochoa, and between Lake Nicaragua and the Pacific, which, together with the lake and river and the smaller streams penetrating into the valleys of the Deseado and San Francisco, will afford easy and economical communication along the whole route. These small streams will be of special value at the start, as they proved to be in the prosecution of the surveys. It is admitted that the prices adopted in estimating the cost of this work should be greater than would be required for similar work located in any well-developed section of this country. A large percentage of the increased cost is chargeable to the transportation of tools and machinery, and to the difficulty in obtaining and providing for the workmen, the country from Greytown to the lake being uninhabited, and that between the lake and Brito but sparsely populated. The erection of houses for the protection of the property and accommodation of employés will be a necessary item of expense; but the country is exceptionally healthy, and these structures need not be either substantial in character or expensive. The majority need be but temporary sheds built with material gathered along the line of the canal, at but little more cost than the labor in handling it; yet, some delay and expense may be found unavoidable in the preliminary preparations for commencing the work.

Another contingency which may cause a marked increase in the cost of the work is the physical inability of the imported workmen to perform the ordinary labor, as compared with that accomplished in a more temperate climate. The laboring classes of Nicaragua, when under proper control, are capable of an activity and endurance under great fatigue and exposure to the elements scarcely equaled in any other country, and with no apparent injury to health; yet the same capabilities can not be expected in unacclimated foreigners, accustomed to different conditions of life. It is believed that not less than 6,000 excellent laborers can be obtained from the Central American States, and that with a judicious management all the help needed can be had from the Gulf States in this country, where the climatic conditions are in many respects similar to those prevailing over a large portion of the canal route. The number of skilled laborers employed will be comparatively small. On the west side of the lake, where the greater number of laborers will be employed, the climate is not excelled for salubrity by any other portion of Central America, and in that portion of the eastern section from Ochoa to Greytown, which is the only locality where trouble from climatic causes might be expected, the unexceptional good health enjoyed by the employes of the company during more than six months of constant exposure to the influence of the climate, while undergoing all kinds of hardships and privations, seems to be an evident demonstration that no apprehensions need be entertained as to the climate. It will be observed that in this section the work is divided into two large classes, viz, the divide cut and dredging. The first is located in the most elevated and healthy portion of the line, and in the second the number of employés is reduced to a minimum, as manual labor is almost entirely excluded. The small force necessary to handle and care for the machinery will be either housed on the dredges or in quarters in the "divide" where, with the purest of waters from the mountain streams and the cool "trades" constantly sweeping in from the sea, the slightest sanitary regulations will insure perfect health at all

The prices adopted are believed to be ample to cover all possible contingencies, provided the work is conducted by an intelligent and business-like management.

It is estimated that the canal can be completed in six years, of which time one year will be expended in marking out the line, and clearing the ground, and in making the necessary preparations to commence active operations.

CONCLUSION.

In closing this report I beg to express my firm convictions, the result of several years of constant labor and careful investigations, that the route here described and recommended is perfectly practicable, free from complicated engineering problems, and the most economical as well as the safest for interoceanic ship communication between the Atlantic and Pacific Oceans, across the American Isthmus.

between the Atlantic and Pacific Oceans, across the American Isthmus.

In making this location the information obtained by previous surveys and explorations has been utilized with much saving of time and labor, and has greatly con-

tributed to the thorough knowledge of the country traversed by the canal now in possession of the company; and it may be safely stated that the present location can not be materially improved upon.

I take pleasure in expressing my high appreciation of the valuable services rendered by the officers of the expedition, to whose untiring energy and devotion to duty, under many adverse conditions, is due the success of the surveys. With such a large and efficient staff in which the prevailing sentiment of each seems to have been to excel in the discharge of his duties, it is not in my power to make individual references to merit, but my sincere thanks are extended to all; yet I feel confident I can make two exceptions with the unanimous approval of all concerned.

Subchief R. E. Peary, on whom devolved the onerous duty of taking the surveying expedition to Nicaragua, displayed from the moment of his arrival in the country

the most untiring energy, perseverance, and ability in the proper management and distribution of the force under his charge, and in pushing the work forward, deserving the highest commendation. After I took charge of the work his coöperation was

equally valuable.

The other is Mr. J. Francis Le Baron, who has been for the last six months in charge of the surveying parties left in Nicaragua, and has rendered very valuable services in completing and perfecting the location of certain portions of the route, where additional information was deemed necessary.

The medical corps rendered most important services both in attending to the sick and in giving preventive advice, which proved both valuable and effective. It shared

also in the field work and in the draughting at headquarters.

Respectfully submitted.

A. G. MENOCAL, Chief Engineer.

731,000.00

ESTIMATES OF COST ON LOCATION OF 1887-1890.

EASTERN DIVISION, 18.864 MILES.

[From Greytown to the eastern limit of the San Francisco Basin.]

Section 1-From Greytown to the Divide, 15.947 miles.

1,819,820 cubic yards excavation in earth above water, at 40 cents 13,547,597 cubic yards dredging, at 20 cents 172,288 cubic yards stone pitching sides of canal, at \$2 925 acres grubbing and clearing, at \$100 Lighting canal (at one-half mile intervals), 24 incandescent electric beacons and plant Lighting locks, 30 electric arc lights, with separate dynamos for each lock	\$727, 928, 00 2, 709, 519, 40 344, 576, 00 92, 500, 00 67, 000, 00
	\$3,950,523,40
Section 2—The Divide, 2.917 miles.	
7,000,230 cubic yards excavation in rock, at \$1.50	10,500,345.00 1,213,961.60 16,900.00 8,500.00
11,600 lineal feet of narrow section of canal, to receive double fender wales each side, at \$4	46, 400. 00
	11,786, 106.60
Railroad and telegraphs.	
12 miles railroad from Lock No. 1 to San Francisco Basin, at \$60,000. 22 miles telegraphs, Greytown to San Francisco Basin, at \$500	720, 000. 00 11, 000. 00

Lock No. 1.

463,603 cubic yards excavation in earth, at 40 cents	\$185, 441, 20
120,044 cubic yards concrete (rock obtained from the Divide Cut),	\$100, 441. 20
at \$6	720, 264. 00
at \$6 2,400 cubic yards stone pitching in basin, at \$2	4,800.00
3,699 cubic feet fender wales, at 50 cents	1,849.50
1,020 fender piles 45 feet long, at \$13.50	13, 770.00
Gates	114, 934, 40
Machinery	100, 000. 00
Buildings	30, 000. 00
Pumping	100, 000.00
-	1 071 000 10
Lock No. 2.	1, 271, 059. 10
LOCK IVO. &.	
308,918 cubic yards excavation in earth, at 40 cents	123, 567, 20
120,430 cubic yards concrete (rock obtained from the Divide Cut),	
at \$6	722, 580.00
2,400 cubic yards stone pitching in basin, at \$2	4,800.00
3,699 cubic feet of fender wales, at 50 cents	1,849.50
1,020 fender piles 45 feet long, at \$13.50	13,770.00
Gates	114, 934. 40
Machinery	100,000.00
Buildings	30,000.00
_	
	1, 111, 501. 10
Lock No. 3.	
528,673 cubic yards excavation in earth, at 40 cents	211, 469, 20
147,627 cubic yards concrete (rock obtained from the excavation,)	211, 405. 20
at \$6	885, 762, 00
32 fender cribs, at \$500	16,000.00
Gates	188, 440. 00
Machinery	100, 000. 00
Buildings	30,000.00
Dunuing6	30,000.00
22	1, 631, 671, 20
Harbor of Greytown.	1, 631, 671. 20
	190, 214. 50
Brush and pile pier, 900 feet long	190, 214, 50 338, 860, 50
Brush and pile pier, 900 feet long. 225,907 cubic yards stone in breakwater (from Divide Cut), at \$1.50. 9,550,000 cubic yards dredging in sand, at 20 cents	190, 214, 50 338, 860, 50 1, 910, 000, 00
Brush and pile pier, 900 feet long. 225,907 cubic yards stone in breakwater (from Divide Cut), at \$1.50. 9,550,000 cubic yards dredging in sand, at 20 cents Piers at entrance to canal	190, 214, 50 338, 860, 50
Brush and pile pier, 900 feet long 225,907 cubic yards stone in breakwater (from Divide Cut), at \$1.50. 9,550,000 cubic yards dredging in sand, at 20 cents	190, 214, 50 338, 860, 50 1, 910, 000, 00 100, 000, 00
Brush and pile pier, 900 feet long 225,907 cubic yards stone in breakwater (from Divide Cut), at \$1.50. 9,550,000 cubic yards dredging in sand, at 20 cents Piers at entrance to canal Lighting and buoying: One first-order lighthouse complete	190, 214, 50 338, 860, 50 1, 910, 000, 00 100, 000, 00
Brush and pile pier, 900 feet long. 225,907 cubic yards stone in breakwater (from Divide Cut), at \$1.50. 9,550,000 cubic yards dredging in sand, at 20 cents Piers at entrance to canal Lighting and buoying: One first-order lighthouse complete Three range beacon lights	190, 214, 50 338, 860, 50 1, 910, 000, 00 100, 000, 00 100, 000, 00 1, 000, 00
Brush and pile pier, 900 feet long. 225,907 cubic yards stone in breakwater (from Divide Cut), at \$1.50. 9,550,000 cubic yards dredging in sand, at 20 cents Piers at entrance to canal Lighting and buoying: One first-order lighthouse complete Three range beacon lights	190, 214, 50 338, 860, 50 1, 910, 000, 00 100, 000, 00 100, 000, 00 1, 000, 00 7, 000, 00
Brush and pile pier, 900 feet long. 225,907 cubic yards stone in breakwater (from Divide Cut), at \$1.50. 9,550,000 cubic yards dredging in sand, at 20 cents Piers at entrance to canal Lighting and buoying: One first-order lighthouse complete Three range beacon lights	190, 214, 50 338, 860, 50 1, 910, 000, 00 100, 000, 00 1, 000, 00 7, 000, 00 2, 000, 00
Brush and pile pier, 900 feet long	190, 214, 50 338, 860, 50 1, 910, 000, 00 100, 000, 00 1, 000, 00 1, 000, 00 7, 000, 00 2, 000, 00 200, 00
Brush and pile pier, 900 feet long. 225,907 cubic yards stone in breakwater (from Divide Cut), at \$1.50. 9,550,000 cubic yards dredging in sand, at 20 cents Piers at entrance to canal Lighting and buoying: One first-order lighthouse complete Three range beacon lights One breakwater beacon light and signal tower Two pier-head lights One first class (middle channel) Nun buoy Two second class (side channel) Nun buoys	190, 214, 50 338, 860, 50 1, 910, 000, 00 100, 000, 00 1, 000, 00 7, 000, 00 2, 000, 00 200, 00 200, 00
Brush and pile pier, 900 feet long	190, 214, 50 338, 860, 50 1, 910, 000, 00 100, 000, 00 1, 000, 00 1, 000, 00 7, 000, 00 2, 000, 00 200, 00
Brush and pile pier, 900 feet long. 225,907 cubic yards stone in breakwater (from Divide Cut), at \$1.50. 9,550,000 cubic yards dredging in sand, at 20 cents Piers at entrance to canal Lighting and buoying: One first-order lighthouse complete Three range beacon lights One breakwater beacon light and signal tower Two pier-head lights One first class (middle channel) Nun buoy Two second class (side channel) Nun buoys	190, 214, 50 338, 860, 50 1, 910, 000, 00 100, 000, 00 1, 000, 00 1, 000, 00 7, 000, 00 2, 000, 00 200, 00 200, 00 100, 00
Brush and pile pier, 900 feet long. 225,907 cubic yards stone in breakwater (from Divide Cut), at \$1.50. 9,550,000 cubic yards dredging in sand, at 20 cents Piers at entrance to canal Lighting and buoying: One first-order lighthouse complete Three range beacon lights One breakwater beacon light and signal tower Two pier-head lights One first class (middle channel) Nun buoy Two second class (side channel) Nun buoys	190, 214, 50 338, 860, 50 1, 910, 000, 00 100, 000, 00 1, 000, 00 7, 000, 00 2, 000, 00 200, 00 200, 00
Brush and pile pier, 900 feet long. 225,907 cubic yards stone in breakwater (from Divide Cut), at \$1.50. 9,550,000 cubic yards dredging in sand, at 20 cents Piers at entrance to canal Lighting and buoying: One first-order lighthouse complete Three range beacon lights One breakwater beacon light and signal tower Two pier-head lights. One first class (middle channel) Nun buoy Two second class (side channel) Nun buoys Two third class (side channel) Nun buoys.	190, 214, 50 338, 860, 50 1, 910, 000, 00 100, 000, 00 1, 000, 00 1, 000, 00 7, 000, 00 2, 000, 00 200, 00 200, 00 100, 00
Brush and pile pier, 900 feet long. 225,907 cubic yards stone in breakwater (from Divide Cut), at \$1.50. 9,550,000 cubic yards dredging in sand, at 20 cents Piers at entrance to canal Lighting and buoying: One first-order lighthouse complete Three range beacon lights One breakwater beacon light and signal tower Two pier-head lights. One first class (middle channel) Nun buoy Two second class (side channel) Nun buoys Two third class (side channel) Nun buoys. Auxiliary Works. 105,500 cubic yards dredging in earth and sand in diversion of	190, 214, 50 338, 860, 50 1, 910, 000, 00 100, 000, 00 1, 000, 00 1, 000, 00 7, 000, 00 2, 000, 00 200, 00 200, 00 100, 00
Brush and pile pier, 900 feet long. 225,907 cubic yards stone in breakwater (from Divide Cut), at \$1.50. 9,550,000 cubic yards dredging in sand, at 20 cents. Piers at entrance to canal Lighting and buoying: One first-order lighthouse complete Three range beacon lights. One breakwater beacon light and signal tower. Two pier-head lights. One first class (middle channel) Nun buoy. Two second class (side channel) Nun buoys. Two third class (side channel) Nun buoys. Auxiliary Works. 105,500 cubic yards dredging in earth and sand in diversion of Deseado, at 20 cents.	190, 214, 50 338, 860, 50 1, 910, 000, 00 100, 000, 00 1, 000, 00 1, 000, 00 7, 000, 00 2, 000, 00 200, 00 200, 00 100, 00
Brush and pile pier, 900 feet long. 225,907 cubic yards stone in breakwater (from Divide Cut), at \$1.50. 9,550,000 cubic yards dredging in sand, at 20 cents. Piers at entrance to canal Lighting and buoying: One first-order lighthouse complete Three range beacon lights One breakwater beacon light and signal tower. Two pier-head lights. One first class (middle channel) Nun buoy Two second class (side channel) Nun buoys. Two third class (side channel) Nun buoys. Auxiliary Works. 105,500 cubic yards dredging in earth and sand in diversion of Deseado, at 20 cents. Embankment and weirs in yalley of the Deseado:	190, 214, 50 338, 860, 50 1, 910, 000, 00 100, 000, 00 1, 000, 00 7, 000, 00 2, 000, 00 200, 00 200, 00 100, 00 2, 649, 575, 00
Brush and pile pier, 900 feet long. 225,907 cubic yards stone in breakwater (from Divide Cut), at \$1.50. 9,550,000 cubic yards dredging in sand, at 20 cents. Piers at entrance to canal Lighting and buoying: One first-order lighthouse complete Three range beacon lights One breakwater beacon light and signal tower. Two pier-head lights. One first class (middle channel) Nun buoy Two second class (side channel) Nun buoys Two third class (side channel) Nun buoys. Auxiliary Works. 105,500 cubic yards dredging in earth and sand in diversion of Deseado, at 20 cents. Embankment and weirs in valley of the Deseado: 210,625 cubic yards rock fill (from the Divide Cut), at 40 cents.	190, 214, 50 338, 860, 50 1, 910, 000, 00 100, 000, 00 1, 000, 00 7, 000, 00 2, 000, 00 200, 00 200, 00 100, 00
Brush and pile pier, 900 feet long. 225,907 cubic yards stone in breakwater (from Divide Cut), at \$1.50. 9,550,000 cubic yards dredging in sand, at 20 cents Piers at entrance to canal Lighting and buoying: One first-order lighthouse complete Three range beacon lights One breakwater beacon light and signal tower Two pier-head lights. One first class (middle channel) Nun buoy Two second class (side channel) Nun buoys Two third class (side channel) Nun buoys. Auxiliary Works. 105,500 cubic yards dredging in earth and sand in diversion of Deseado, at 20 cents. Embankment and weirs in valley of the Deseado: 210,625 cubic yards rock fill (from the Divide Cut), at 40 cents. 836,329 cubic yards earth in embankments and backing of weirs,	190, 214, 50 338, 860, 50 1, 910, 000, 00 100, 000, 00 1, 000, 00 2, 000, 00 200, 00 200, 00 100, 00 2, 649, 575, 00 21, 100, 00 84, 250, 60
Brush and pile pier, 900 feet long. 225,907 cubic yards stone in breakwater (from Divide Cut), at \$1.50. 9,550,000 cubic yards dredging in sand, at 20 cents. Piers at entrance to canal Lighting and buoying: One first-order lighthouse complete Three range beacon lights. One breakwater beacon light and signal tower. Two pier-head lights. One first class (middle channel) Nun buoy. Two second class (side channel) Nun buoys. Two third class (side channel) Nun buoys. Auxiliary Works. 105,500 cubic yards dredging in earth and sand in diversion of Deseado, at 20 cents. Embankment and weirs in valley of the Deseado: 210,625 cubic yards rock fill (from the Divide Cut), at 40 cents. 836,329 cubic yards earth in embankments and backing of weirs, at 30 cents.	190, 214, 50 338, 860, 50 1, 910, 000, 00 100, 000, 00 1, 000, 00 7, 000, 00 2, 000, 00 200, 00 200, 00 100, 00 2, 649, 575, 00
Brush and pile pier, 900 feet long. 225,907 cubic yards stone in breakwater (from Divide Cut), at \$1.50. 9,550,000 cubic yards dredging in sand, at 20 cents. Piers at entrance to canal Lighting and buoying: One first-order lighthouse complete Three range beacon lights. One breakwater beacon light and signal tower. Two pier-head lights. One first class (middle channel) Nun buoy. Two second class (side channel) Nun buoys. Two third class (side channel) Nun buoys. Auxiliary Works. 105,500 cubic yards dredging in earth and sand in diversion of Deseado, at 20 cents. Embankment and weirs in valley of the Deseado: 210,625 cubic yards rock fill (from the Divide Cut), at 40 cents. 836,329 cubic yards earth in embankments and backing of weirs, at 30 cents. 79,658 cubic yards excavation of surface soil for embankments,	190, 214, 50 338, 860, 50 1, 910, 000, 00 100, 000, 00 1, 000, 00 2, 000, 00 200, 00 200, 00 200, 00 20, 60 100, 00 2, 649, 575, 00 21, 100, 00 84, 250, 00 250, 898, 70
Brush and pile pier, 900 feet long. 225,907 cubic yards stone in breakwater (from Divide Cut), at \$1.50. 9,550,000 cubic yards dredging in sand, at 20 cents Piers at entrance to canal Lighting and buoying: One first-order lighthouse complete Three range beacon lights One breakwater beacon light and signal tower Two pier-head lights. One first class (middle channel) Nun buoy Two second class (side channel) Nun buoys Two third class (side channel) Nun buoys Two third class (side channel) Nun buoys Embankment and weirs in valley of the Deseado: 210,625 cubic yards rock fill (from the Divide Cut), at 40 cents. 836,329 cubic yards earth in embankments and backing of weirs, at 30 cents. 79,658 cubic yards excavation of surface soil for embankments, at 40 cents	190, 214, 50 338, 860, 50 1, 910, 000, 00 100, 000, 00 1, 000, 00 2, 000, 00 200, 00 200, 00 100, 00 2, 649, 575, 00 21, 100, 00 84, 250, 60
Brush and pile pier, 900 feet long. 225,907 cubic yards stone in breakwater (from Divide Cut), at \$1.50. 9,550,000 cubic yards dredging in sand, at 20 cents Piers at entrance to canal Lighting and buoying: One first-order lighthouse complete Three range beacon lights One breakwater beacon light and signal tower Two pier-head lights. One first class (middle channel) Nun buoy Two second class (side channel) Nun buoys Two third class (side channel) Nun buoys. Auxiliary Works. 105,500 cubic yards dredging in earth and sand in diversion of Deseado, at 20 cents. Embankment and weirs in valley of the Deseado: 210,625 cubic yards rock fill (from the Divide Cut), at 40 cents. 836,329 cubic yards earth in embankments and backing of weirs, at 30 cents. 79,658 cubic yards excavation of surface soil for embankments, at 40 cents 5,100 lineal feet of sheet piling, 30 feet long 8 inches thick, say	190, 214, 50 338, 860, 50 1, 910, 000, 00 100, 000, 00 1, 000, 00 1, 000, 00 2, 000, 00 200, 00 200, 00 100, 00 2, 649, 575, 00 21, 100, 00 84, 250, 60 250, 898, 70 31, 863, 20
Brush and pile pier, 900 feet long. 225,907 cubic yards stone in breakwater (from Divide Cut), at \$1.50. 9,550,000 cubic yards dredging in sand, at 20 cents. Piers at entrance to canal Lighting and buoying: One first-order lighthouse complete Three range beacon lights. One breakwater beacon light and signal tower. Two pier-head lights. One first class (middle channel) Nun buoys. Two second class (side channel) Nun buoys. Two third class (side channel) Nun buoys. Auxiliary Works. 105,500 cubic yards dredging in earth and sand in diversion of Deseado, at 20 cents. Embankment and weirs in valley of the Deseado: 210,625 cubic yards rock fill (from the Divide Cut), at 40 cents. 836,329 cubic yards earth in embankments and backing of weirs, at 30 cents. 79,658 cubic yards excavation of surface soil for embankments, at 40 cents. 5,100 lineal feet of sheet piling, 30 feet long 8 inches thick, say 1,350,000 feet B. M., at \$70.	190, 214, 50 338, 860, 50 1, 910, 000, 00 100, 000, 00 1, 000, 00 2, 000, 00 200, 00 200, 00 200, 00 20, 60 100, 00 2, 649, 575, 00 21, 100, 00 84, 250, 00 250, 898, 70
Brush and pile pier, 900 feet long. 225,907 cubic yards stone in breakwater (from Divide Cut), at \$1.50. 9,550,000 cubic yards dredging in sand, at 20 cents. Piers at entrance to canal Lighting and buoying: One first-order lighthouse complete Three range beacon lights. One breakwater beacon light and signal tower. Two pier-head lights. One first class (middle channel) Nun buoys. Two second class (side channel) Nun buoys. Two third class (side channel) Nun buoys. Auxiliary Works. 105,500 cubic yards dredging in earth and sand in diversion of Deseado, at 20 cents. Embankment and weirs in valley of the Deseado: 210,625 cubic yards rock fill (from the Divide Cut), at 40 cents. 836,329 cubic yards earth in embankments and backing of weirs, at 30 cents. 79,658 cubic yards excavation of surface soil for embankments, at 40 cents 5,100 lineal feet of sheet piling, 30 feet long 8 inches thick, say 1,350,000 feet B. M., at \$70. 250,000 feet B. M. timber for cross-ties and guides for sheet pil-	190, 214, 50 338, 860, 50 1, 910, 000, 00 100, 000, 00 1, 000, 00 2, 000, 00 200, 00 200, 00 200, 00 20, 60 100, 00 2, 649, 575, 00 21, 100, 00 84, 250, 00 250, 898, 70 31, 863, 20 94, 500, 00
Brush and pile pier, 900 feet long. 225,907 cubic yards stone in breakwater (from Divide Cut), at \$1.50. 9,550,000 cubic yards dredging in sand, at 20 cents. Piers at entrance to canal Lighting and buoying: One first-order lighthouse complete Three range beacon lights. One breakwater beacon light and signal tower. Two pier-head lights. One first class (middle channel) Nun buoy. Two second class (side channel) Nun buoys. Two third class (side channel) Nun buoys. Two third class (side channel) Nun buoys. Embankment and weirs in valley of the Deseado: 210,625 cubic yards rock fill (from the Divide Cut), at 40 cents. 836,329 cubic yards earth in embankments and backing of weirs, at 30 cents. 79,658 cubic yards excavation of surface soil for embankments, at 40 cents 5,100 lineal feet of sheet piling, 30 feet long 8 inches thick, say 1,350,000 feet B. M., at \$70. 250,000 feet B. M. timber for cross-ties and guides for sheet piling, etc., at \$60.	190, 214, 50 338, 860, 50 1, 910, 000, 00 100, 000, 00 1, 000, 00 2, 000, 00 200, 00 200, 00 100, 00 2, 649, 575, 00 21, 100, 00 250, 898, 70 31, 863, 20 94, 500, 00 15, 000, 00
Brush and pile pier, 900 feet long. 225,907 cubic yards stone in breakwater (from Divide Cut), at \$1.50. 9,550,000 cubic yards dredging in sand, at 20 cents. Piers at entrance to canal. Lighting and buoying: One first-order lighthouse complete Three range beacon lights. One breakwater beacon light and signal tower. Two pier-head lights. One first class (middle channel) Nun buoy. Two second class (side channel) Nun buoys. Two third class (side channel) Nun buoys. Two third class (side channel) Nun buoys. **Auxiliary Works.** 105,500 cubic yards dredging in earth and sand in diversion of Deseado, at 20 cents. Embankment and weirs in valley of the Deseado: 210,625 cubic yards rock fill (from the Divide Cut), at 40 cents. 836,329 cubic yards earth in embankments and backing of weirs, at 30 cents. 79,658 cubic yards excavation of surface soil for embankments, at 40 cents 5,100 lineal feet of sheet piling, 30 feet long 8 inches thick, say 1,350,000 feet B. M., at \$70. 250,000 feet B. M. timber for cross-ties and guides for sheet piling, etc., at \$60. 200 bearing piles for trestles and guides to sheet piling, at \$10.	190, 214. 50 338, 860. 50 1, 910, 000. 00 100, 000. 00 1, 000. 00 2, 000. 00 200. 00 200. 00 200. 00 21, 100. 00 2, 649, 575. 00 21, 100. 00 250, 898. 70 31, 863. 20 94, 500. 00 2, 000. 00 2, 000. 00 2, 000. 00 2, 000. 00 2, 000. 00 2, 000. 00
Brush and pile pier, 900 feet long. 225,907 cubic yards stone in breakwater (from Divide Cut), at \$1.50. 9,550,000 cubic yards dredging in sand, at 20 cents. Piers at entrance to canal Lighting and buoying: One first-order lighthouse complete Three range beacon lights. One breakwater beacon light and signal tower. Two pier-head lights. One first class (middle channel) Nun buoy. Two second class (side channel) Nun buoys. Two third class (side channel) Nun buoys. Two third class (side channel) Nun buoys. Embankment and weirs in valley of the Deseado: 210,625 cubic yards rock fill (from the Divide Cut), at 40 cents. 836,329 cubic yards earth in embankments and backing of weirs, at 30 cents. 79,658 cubic yards excavation of surface soil for embankments, at 40 cents 5,100 lineal feet of sheet piling, 30 feet long 8 inches thick, say 1,350,000 feet B. M., at \$70. 250,000 feet B. M. timber for cross-ties and guides for sheet piling, etc., at \$60.	190, 214, 50 338, 860, 50 1, 910, 000, 00 100, 000, 00 1, 000, 00 2, 000, 00 200, 00 200, 00 100, 00 2, 649, 575, 00 21, 100, 00 250, 898, 70 31, 863, 20 94, 500, 00 15, 000, 00
Brush and pile pier, 900 feet long. 225,907 cubic yards stone in breakwater (from Divide Cut), at \$1.50. 9,550,000 cubic yards dredging in sand, at 20 cents. Piers at entrance to canal. Lighting and buoying: One first-order lighthouse complete Three range beacon lights. One breakwater beacon light and signal tower. Two pier-head lights. One first class (middle channel) Nun buoy. Two second class (side channel) Nun buoys. Two third class (side channel) Nun buoys. Two third class (side channel) Nun buoys. **Auxiliary Works.** 105,500 cubic yards dredging in earth and sand in diversion of Deseado, at 20 cents. Embankment and weirs in valley of the Deseado: 210,625 cubic yards rock fill (from the Divide Cut), at 40 cents. 836,329 cubic yards earth in embankments and backing of weirs, at 30 cents. 79,658 cubic yards excavation of surface soil for embankments, at 40 cents 5,100 lineal feet of sheet piling, 30 feet long 8 inches thick, say 1,350,000 feet B. M., at \$70. 250,000 feet B. M. timber for cross-ties and guides for sheet piling, etc., at \$60. 200 bearing piles for trestles and guides to sheet piling, at \$10.	190, 214. 50 338, 860. 50 1, 910, 000. 00 100, 000. 00 1, 000. 00 2, 000. 00 200. 00 200. 00 200. 00 21, 100. 00 2, 649, 575. 00 21, 100. 00 250, 898. 70 31, 863. 20 94, 500. 00 2, 000. 00 2, 000. 00 2, 000. 00 2, 000. 00 2, 000. 00 2, 000. 00

RECAPITULATION, EASTERN DIVISION.

RECAPITULATION, EASIERN DIVISION.	
Section 1, from Greytown to the Divide	\$ 3, 950, 523. 40
Section 2, the Divide	11, 786, 106. 60
Railroad and telegraphs	731, 000, 00
Lock No. 1	1, 271, 059, 10
Lock No. 2	1, 111, 501, 10 1, 631, 671, 20
Lock No. 3	2, 649, 575. 00
Auxiliary Works	554, 611. 90
	23, 686, 048. 30
SAN FRANCISCO DIVISION, 12.500 MILES.	
[From the western end of the eastern divide out" to the River San	Inan.1
[Time and woodern out or and outside an arrive out to and restor to an	o danie j
725 acres clearing trees from line of canal, at \$100	72, 500, 00
30,309 cubic yards excavation in rock, at \$1.50	- 45, 463. 50
2,698.195 cubic yards excavation in earth, at 40 cents	1,079,278.00
Lighting canal at one-half mile intervals, 24 incandescent electric beacons and plant	65,000.00
Guard gate or movable dam to control waters of the San Juan	300, 000.00
duald gase of movable dam to contitor wasters of the San Sugar	300, 000.00
	1,562,241.50
Railroad and telegraphs.	
15 miles railroad at \$60,000	900, 000, 00
40 miles telegraphs, from Divide to Castillo, at \$500	20, 000, 00
The miles telegraphs, from Divide to Castillo, at 4000	20,000.00
	920, 000, 00
Embankments and weirs in the valley of the San Francisco:	
3,239,705 cubic yards earth in embankments from canal excava-	
tion, at 30 cents	971, 911. 50
1,575,459 cubic yards rock fill from the "divide cut," at 40 cents 192, 415 cubic yards excavation of surface soil for embankments,	
at 50 cents	96, 207, 50
12,600 lineal feet of sheet piling 40 feet long 8 inches thick, say	
4,500,000 feet B. M., at \$70	315, 000. 00
4,500,000 feet B. M., at \$70	
30 feet long, at \$8	11, 664, 00
524,000 feet B. M., of timber in guides and cross-ties for sheet pil-	91 440 00
ing, etc., at \$60	31, 440. 00
road, at \$22	606, 870, 00
178 acres grubbing and clearing for embankments at \$100	17, 800, 00
DWG LDTETT LETOLS GLOS TO LITERIO DIFFERENCE	2, 681, 076. 60
RECAPITULATION, SAN FRANCISCO DIVISION.	
Excavation, lighting, clearing, etc.	1,562,241.50
Railroad and telegraphs	920, 000. 00
Embankments and weirs in valley of the San Francisco	2, 681, 076. 60
•	
	5, 163, 318. 10
LAKE AND RIVER DIVISION, 121 MILES.	
Character to the mostom show of Take Nicesons at the most of the	o Dio Toios 1
[From Ochoa to the western shore of Lake Nicaragua at the mouth of the	is trio rudue: 1
Section 1-Rio San Juan, 64.5 miles.	
DOUTION 2 - LOW DWAN, UZO HEROOS	
398,613 cubic yards excavation in rock under water, at \$5	1,993,065.00
422,540 cubic yards excavation in earth above water, at 40 cents	169, 416. 00
2,150,900 cubic yards dredging in earth at 30 cents	645, 270.00
377 acres grubbing and clearing across bends at \$100	37, 700. 00
Lighting and buoying:	050 00
10 middle channel spar buoys (Fort San Carlos to Toro), at \$25	250. 00 4, 000. 00
One electric arc lamp in signal tower at Dam	3, 000. 00
Three incandescent electric light beacons, at Dam basin	
70 miles telegraphs, at \$500	
	2, 888, 701. 00
7 7 11 10	

Section 2-Lake Nicaragua, 56.5 miles.

176,832 cubic yards submarine rock excavation (west shore of lake),	
at \$5	\$884, 160. 00
4,726,076 cubic yards dredging (east side of lake), at 20 cents	945, 215. 20
Lighting and buoying: One fourth-order lens in signal tower at mouth of Rio Lajas	7,000.00
	100.00
One 2-mile range beacon	
Island	9,000.00
One second-order lens on hill, old Fort San Carlos	80,000.00
One fourth-order range light in signal tower, old Fort San	7,000.00
Carlos	7,000.00
Lajas	100.00
Two third-class (side channel) nun buoys at mouth of Lajas	100.00
Five third-class (middle channel) nun buoys at entrance Rio San	150.00
Juan	100.00
	1,857,825.20
Dam across Rio San Juan at Ochoa.	
18,500 cubic yards excavation in earth, at 40 cents	7, 400. 00
1,550 cubic yards concrete in core walls of abutments, at \$10	15,500.00
830 bearing piles for trestles and sheet piling 45 feet long, at \$13.50	11, 205.00
3,330 lineal feet of sheet piling, 30 feet deep by 8 inches thick, 800,000	00 000 00
feet B. M., at \$75. 1,180,000 feet B. M. of timber in trestles, guides for sheet piling, cross	60, 000. 00
ties, etc., at \$60	70, 800, 00
ties, etc., at \$60	403, 960.00
629,090 cubic yards earth filling from excavation at 25 cents	157, 272. 50
	726, 137. 50
Embankments on San Carlos Ridge line.	110, 201, 00
902 040 orbic mode conth in emberhments (horsewell) at 50 conts	005 400 00
293,240 cubic yards earth in embankments (borrowed), at 70 cents	205, 408, 00 11, 185, 00
450 lineal feet sheet piling 40 feet long, 8 inches thick, 144,000 feet	. 11, 100.00
B. M., at \$70	1,510.00
45 guide piles for sheet piling, averaging 30 feet long, at \$8	360, 00
18,000 feet B. M. of timber in guides and cross-ties for sheet piling, etc., at \$60.	1,080.00
34 acres grubbing and clearing for embankments, at \$100	350.00
-	
DECADIMITIATION LAPP AND DIVID DIVIDION	219, 893. 00
RECAPITULATION, LAKE AND RIVER DIVISION.	
Section 1, River San Juan	2, 888, 701.00
Section 2. Lake Nicaragua	1,867,825.20
Embankments in San Carlos Ridge Line	219, 893.00
Dam across Rio San Juan at Ochoa	726, 137. 50
	5, 692, 556. 70
WESTERN DIVISION, 17.04 MILES.	
Section 1.—From Lake Nicaragua to Briton 17.04 miles.	
5,696,507 cubic yards excavation in rock above water, at \$1.25	7, 120, 633. 75
5,399,316 cubic yards excavation in earth above water, at 40 cents 1,066,666 cubic yards dredging in sand, at 20 cents	2, 159, 726, 40
20,753 cubic yards stone pitching sides of canal, at \$2	213, 333, 20 41, 506, 00
1.033 acres grubbing and clearing, at \$50	51, 650, 00
Lighting 20 incandescent electric beacons and plant	54, 000, 00
30 electric arc lights and two separate dynamos at locks	9,000.00
26,000 lineal feet of narrow section of canal to have double fender wales each side, at 34	104, 000. 00
nom.	
	9, 753, 849. 35

Diversion of the Rio Lajas into the lake.

249,508 cubic yards excavation in earth, at 40 cents	\$99, 803, 20 205, 982, 50
Railroad and telegraphs.	305, 785. 70
18 miles narrow-gauge railroad, at \$25,000	450 , 000, 00 9, 000, 00
La Flor dam.	459, 000. 00
44210	
17 acres grubbing and clearing, at \$50	850. 00 128, 000. (0
thick, 796,800 feet B. M., at \$75 322 bearing piles for trestles and guiding sheet piling 20 feet long,	59, 760.00
thick, 796,800 feet B. M., at \$75 322 bearing piles for trestles and guiding sheet piling 20 feet long, at \$5 50,000 feet B. M. of lumber for guides and cross-ties for sheet piling,	1,610.00
at 500	2,500.00
1,600 lineal feet of trestles for dumping material, at \$22	35, 200. 00
918,000 cubic yards earth from canal excavation, at 20 cents 830,000 cubic yards rock fill from excavation for locks, at 20 cents	183, 600. 00 166, 000. 00
	577, 520, 00
Locks Nos. 4 and 5.	377,020.00
004 104	000 040 70
664,194 cubic yards excavation in rock, at \$1.25	830, 242. 50
127,646 cubic yards excavation in earth, at 40 cents	51, 058. 40 600, 000. 00
1,020 fender piles, at \$13.50	13,770.00
3,699 cubic feet fender wales, at 50 cents	1,849.50
2,400 cubic yards stone pitching in basin, at \$2	4,800.00
Gates	250, 000. 00
Gates	150, 000. 00
Buildings	45, 000. 00
	1, 946, 720, 40
Tidal Lock No. 6.	
61,698 cubic yards excavation in rock, at \$1.25	\$77, 122, 50
124,800 cubic yards excavation in earth, at 40 cents	49, 920, 00
126,000 cubic yards concrete (rock obtained from the Divide Cut),	
at \$6. 1,020 fender piles, at \$13.50	756, 000. 00
1,020 fender piles, at \$13.50	13,770.00
3,698 cubic feet of fender wales, at 50 cents	1,849.00
2,400 cubic yards stone pitching in basin, at \$2	4,800.00
Washinger	114, 934, 40
Machinery	100, 000, 00
Buildings Pumping	30, 000. 00 100, 000. 00

0/1 ··· / ··· /1/ ··· / IV ··· IV	1, 248, 395. 90
Other Auxiliary Work.	
Guard gate or movable dam in the Divide	300, 000. 00
Crib piers at lake entrance to canal	493, 710.00
Three swinging bridges over canal	60, 000, 00
189,016 cubic yards embankment near site of locks, at 50 cents	94, 508. 00
19,080 cubic yards masonry walls at head of Lock No. 4, at \$10	190, 800. 00
	1, 139, 018. 00

Harbor of Brito.

5,658,898 cubic yards dredging, at 20 cents	\$1, 131, 779. 60
383,899 cubic yards stone in breakwaters (stone from Divide Cut), at \$1.50.	575, 848, 50
Lighting and buoying I second order lens in signal tower on pro-	010,040.00
montory	10,000.00
One range light beacon, inner base of promontory	100, 00
Two pier-head lights	2,000.00
Two pier-head lights	200.00
Four third class (side channel) Nun buoys	200.00
701.1.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4	1, 720, 128. 10
Right of way indemnity	100, 000. 00
RECAPITULATION, WESTERN DIVISION.	
Section 1 const	0 860 040 05
Section 1, canal	9, 753, 849. 35 305, 785, 70
Railroads and telegraphs	459, 000. 00
La Flor dam	577, 520, 00
Locks Nos. 4 and 5.	1, 946, 720. 40
Tidal Lock No. 6	1, 248, 395. 90
Other auxiliary works	1, 139, 018. 00
Harbor of Brito	1,720, 128, 10
Right of way indemnity	100,000.00
Tipitapa Canal	275, 000.00
	17, 525, 417, 45
GRAND RECAPITULATION.	
Floatern division	\$00 COC 040 00
Eastern division	\$23,686,048.30 5,163,318.10
Lake and river division	5, 692, 55 6, 7 0
Western division	17, 525, 417, 45
WOODDIE GIVIOLOE	17,000, 117. 10
	52, 067, 340, 55
Surveys, hospitals, shops, management, and contingencies, 25 per	,
cent	13, 016, 835, 45
C3 4-4-3	07 004 100 00
Grand total	65, 084, 176. 00
Respectfully aubmitted.	
	MENOCAL,
c	hief Engineer.
F37 7 04 4000 PM 44 4 3 3 4 4 4 6	

[Note.—Jan. 31, 1890 These estimates have been revised to conform to information obtained to date.]

APPENDIX H.

NICARAGUA CANAL CONSTRUCTION COMPANY.

REPORT OF THE BOARD OF CONSULTING ENGINEERS MAY 9, 1889.

To the Nicaragua Canal Construction Company:

Gentlemen: The undersigned were requested by your letter of January 10, 1889, to examine the plans and estimates prepared by your chief engineer, Mr. A. G. Menocal, for a ship canal between the two oceans at Nicaragua, and to indicate the cost, in their judgment, of constructing a canal along the line proposed and following, in general, the plans of your chief engineer. You also requested an opinion upon the practicability of the canal as now proposed, with due reference to the end in view, namely, the safe and convenient passage of sea-going ships from ocean to ocean. We beg to present the following report:

We have carefully examined the unusually full maps, profiles, borings, samples of materials, etc., which have been prepared and collected under the directions of your chief engineer, and the completeness and excellent form of which reflect credit upon

your engineering staff.

We find certain elements of the designs submitted which may probably be advantageously modified. This would in some cases reduce and in others increase the quantities. It is also altogether likely that some parts of the work may be let at lower and other parts at higher prices than are estimated. We, however, are disposed to base our conclusions on quantities and prices which should prove sufficient to accomplish it upon the assumption of good and honest management, backed by an ample treasury. We have necessarily borne in mind the fact that the cost of the notable precursors of this caual project, both at Suez and Panama, has greatly exceeded the amount of the original estimates, and that this has been true of many other important works. While this might be, perhaps, in a large measure traced to unfortunate management, as well as the lack of such careful preliminary studies as have been laid before us in this case, we have nevertheless endeavored to guard against a similar result by a liberal allowance for every apparent contingency.

Acting on this principle, we have not yet deemed it wise to reduce the quantities or prices of your chief engineer's estimates in any instance, even when it appeared possible that this might prudently be done. His figures are, of course, founded upon a better knowledge of the local conditions than we can now possess. But to the extent to which it has appeared at all doubtful we have liberally increased one or both.

Our conclusions are as follows:

The project, as a whole, appears to have comparatively few elements of doubt about it, as contrasted with other works of at all similar magnitude, and we consider it to be unquestionably feasible. The great area of Lake Nicaragua offers immunity from serious floods by regulating flow. Much of the earth excavation and dredging, the rock drilling, and the concrete mixing can be done by mechanical means, to that extent reducing the need for manual labor. The dams and embankments are proposed to be made largely from the immense mass of otherwise useless rock spoil. Under the climatic conditions, as we understand them, an adequate supply of labor should be obtainable. The project in detail consists of the following elements:

First. Of 10 miles on the east end and 0.57 miles on the west end of sea-level canal dredged in from the coast. The borings submitted seem to warrant the opinion that this will be entirely through alluvial deposits, as is also the case in certain parallel river diversions. The samples of material taken from these borings all appear favorable for dredging and the cost of such dredging can be foreseen with the greater precision, because less influenced by climate, weather, and rates of wages than most other engineering work.

Second. Of a flight of three locks on each end, all within a distance of about one

and one-half miles at one end and two miles at the other, by which the ascent is made from the sea-level to the summit-level of 110 feet (this elevation being some four feet less on the eastern end to allow for a necessary fall of three-fourths of an inch per mile in the San Juan River). These locks are shown by the borings submitted to be all founded on rock. The proposed size for locks, 650 feet by 70 feet by 30 feet deep, seems sufficient for all demands.

Third. Of a very long summit level of 155.98 miles, consisting of four main parts:

(a) The great divide cuts of 3 and 8 miles in length, respectively, which are shown by the evidence submitted, to consist chiefly of rock, overlaid with a few feet of

earth.

(b) The Descado, San Francisco, Michado, and Tola basins formed by dams, furnish 21.57 miles of slack-water navigation, 18.13 miles of which require no excava-

tion and the remaining 3.44 miles earth dredging only.

(c) The river San Juan, raised in level by a dam at Ochoa, so as to furnish slackwater navigation, and Lake Nicaragua furnish together 121 miles of free navigation of which 36.5 miles require some earth dredging and 3.83 miles some rock dredging. (d) An inconsiderable amount (1.63 miles) of canal section in earth, chiefly to con-

nect the San Francisco and Machado basins.

The two great rock cuts are by far the heaviest features of the work. In considering the plans for them and determining the proper amount and cost of work we have felt that every provision should be made to secure permanent slopes and to provide a section suitable for any vessels which can pass the locks. We think that the

estimates, as modified by us, will secure these results.

The four great basins present a most admirable feature of the plans. As compared with a restricted canal channel, they facilitate navigation as well as reduce the cost. They are made, as is also the slack-water navigation of the San Juan River, by dams and embankments of considerable extent, none, however, of very great height plans submitted provide for forming these dams and embankments chiefly of heavy rock filling, the proximity of the great rock cuts (from which material must otherwise be wasted) to the sites of these dams and embankments facilitating their permaneut construction at moderate cost. While we are not ready to say that the details of the plans submitted may not be, in some respects, modified, we regard the estimates adopted as sufficient to attain the results desired, subject to the following

There is the possible hazard in respect to the San Francisco and other basins, that they may not prove sufficiently retentive, owing either to leakage around the ends or under the bases of the dam and embankments, or to conceal permeable strict a beneath the natural surface. We deem this a remote danger since both the surface and subterranean formations, so far as revealed by borings and by the reports of the obser-

vations of reliable men, familiar with the locality, are favorable.

For a work of ordinary magnitude we would accept such evidence as ample, but in view of the great area and volume of the basins, we agree that the possibility ought to be covered by the estimate. The probability is great that there are no permeable strata beneath the surface; if they exist they might not necessarily cause leakage, and even if leakage resulted, it would not necessarily do serious harm. Concentrated leakage if it occurred might possibly be remedied, and if it should develop at all would be likely to occur at an early stage of the work of construction. The worst result to be feared is that it might impel a modification of the original features of the project, enforcing a lowering of the water level at certain points, and at an additional cost of about \$7,000,000. Under the circumstances, we, out of abundant caution, have deemed it wise and right to make the general contingency of allowance (\$14,633,262) large enough, in our opinion, to cover this amount.

The requisite depth in the San Juan River and in Lake Nicaragua is obtained by a considerable amount of dredging, largely of earth but also with an amount of rock blasting under water, the precise extent and cost of which it is exceptionally difficult

We have therefore made an allowance for this work,

We have included in the estimates the sum of \$1,035,000, for the diversion of the Rio Grande, as it seems proper to provide for the possible necessity of the diversion of this important stream from the canal. We have also included in the estimate the amount named by the chief engineer for the work that may be necessary in the valley of the San Carlos and in the construction of the canal between Lake Managua

and Lake Nicaragua, this construction being a requirement of the concession.

The estimates for the harbor improvements at Brito and Greytown we leave unchanged. It appears probable that the amounts estimated may prove ample for all requirements other than gradual enlargement of basin areas, but whether so or not (and it is always extrenely difficult to anticipate with certainty what may be the ultimate requirements for work of this class), we do not see the necessity in this work as we do in the canal proper for the endeavor to provide at the outset for all future demands of commerce. Sufficient expenditure prior to the opening of the canal to meet reasonable requirements for the first year or two after opening is all that we have taken into consideration in our estimates. The canal once opened adequate harbors can certainly be provided at a moderate percentage on the total cost of the canal, even should the sum herein estimated for harbors and contingencies prove insufficient. We must not be understood as implying by this statement, however, that we now see reason to fear that the present estimate for harbor work will probably

prove inadequate. Such is not the fact.

It may not be regarded as improper to mention also that while the cuts, locks, dams, etc., should be completed for the full depths at the outset, something like one-fifth of the total amount of the estimate is for dredging and earth excavation under water, which is not required to afford 20 feet draught, and which can be completed with little or no disadvantage after the canal has been so far constructed as to pass vessels of that draught, making it possible—if found advisable—to open the canal for 20 feet draught for about four-fifths of the final cost.

Our estimate, which is intended to represent the maximum sum which the canal ought to cost, assuming, as aforesaid, integrity, good management, and no interrup-

tion of work from financial or other causes, is as follows:

Auxiliary railways, double track, standard gauge, from divide cut east to Greytown, and from divide cut west to Ochoa Dam, 20 miles, and telegraph, temporary and permanent systems. Same on Pacific slope, Rio Lajas to Brito, 18 miles.	\$1, 110, 000
	1,569,000
Harbor works, Greytown	- 4, 270, 795
Section 1, from Greytown to the divide	5, 296, 527 18, 333, 639
Locks Nos. 1, 2, and 3 Diversion of the Deseado and San Juanillo San Francisco division	4, 195, 828 982, 016 5, 411, 551
Lake and river division: Rio San Juan Lake Nicaragua.	3, 685, 701 2, 211, 825
Dam at Ochoa	726, 137 12, 133, 849
Diversion of Rio Lajas La Flor dam Locks 4, 5, and 6, and guard gates	346, 786 577, 520 3, 899, 116
Right of way indemnity	1, 139, 018
between Lake Managua and Nicaragua. Diversion of the Rio Grande For engineering, management, labor agencies, shops, police, sanitary	1,000,000 1,035,000
service, and incidentals	
Add to cover specified and unspecified contingencies of construction, 20 pecent.	r
Grand total of estimate	87, 799, 570

In conclusion, we think it proper to express our opinion that the exploration and studies of the region have been sufficient to warrant the conclusion that, unless hindered by obstacles or sinister influences such as would, if permitted to weigh, forbid the success of all ventures, this enterprise is full of promise.

Respectfully,

JOHN BOGART.
E. T. D. MYERS.
A. M. WELLINGTON.
H. A. HITCHCOCK.

I concur in the foregoing estimates as being in the aggregate ample for the purposes stated.

MAY 9, 1889.

CHAS. T. HARVEY.

APPENDIX I

CONCESSION AND DECREES OF THE REPUBLIC OF NICARAGUA TO THE NICARAGUA CANAL ASSOCIATION OF NEW YORK.

The President of the Republic to the inhabitants thereof:

Know ye that Congress has ordered as follows:

The senate and chamber of deputies of the Republic of Nicaragua do nereby de-

cree-

ONLY ARTICLE.—The contract for a maritime interoceanic canal entered into the 23d of March, ult., between Dr. Adam Cardenas, commissioned especially by the supreme government, and Mr. A. G. Menocal, member and representative of the Nicaragua Canal Association organized in New York, is hereby ratified. This contract shall be a law of the Republic if Mr. Menocal accepts it as soon as he be notified, with the following modifications and upon the following terms:

The undersigned, Adan Cardenas, commissioner of the Government of the Republic, party of the first part, and Aniceto G. Menocal, representative of the Nicaragua Canal Association, party of the second part, both having sufficient powers, have entered into the following contract for the excavation of an interoceanic canal

through the territory of Nicaragua:

ARTICLE I.

The Republic of Nicaragua grants the aforesaid Nicaragua Canal Association, and Mr. A. G. Menocal, representative of the said association, accepts on its behalf, for the purposes set forth in article 7, the exclusive privilege to excavate and operate a maritime canal across its territory, between the Atlantic and Pacific Oceans.

ARTICLE II.

The canal shall be of sufficient dimensions for the free and commodious passage of vessels of the same size as the large steamers used for ocean navigation in Europe and America, provided that no locks used in said work shall be less than five hundred and fifty (550) feet in length and thirty feet in depth.

ARTICLE III.

The State declares this work to be one of public utility.

ARTICLE IV.

The duration of the present privilege shall be for ninety-nine (99) years, to be counted from the day the canal shall be opened to universal traffic. During the aforesaid period the company shall have the right to construct and operate a railway along the whole extent of the canal, or those parts of the same that may be considered convenient for the better service and operation of the said work.

ARTICLE V.

The State binds itself not to make any subsequent concession for the opening of a canal between the two oceans during the term of the present concession, and also to abstain from granting a concession for a railroad, such as might compete with the canal for the transportation of merchandise, during the same period; but nothing in this article shall prevent the Government of Nicaragua from constructing or permitting the construction of such railways as it may deem advisable for commerce and internal traffic. Said Government also to have the right to construct or permit the construction of an interoceanic railway if in course of time it be demonstrated that the canal is not sufficient to satisfy the demands of the traffic of all nations.

The grantee company shall have the right to establish such telegraph lines as it may deem necessary for the construction, management, and operation of the canal. The Government shall have the right to occupy these lines for the public service

without any remuneration to the company.

ARTICLE VI.

The Government of the Republic declares, during the term of this concession, the ports at each extremity of the canal, and the canal itself, from sea to sea to be neutral, and that consequently the transit through the canal in case of war between two powers or between one or more and Nicaragua shall not be interrupted for such cause; and that merchant vessels and individuals of all nations of the world may freely enter

the ports and pass through the canal without molestation or detention.

In general, all vessels may pass through the canal freely, without distinction, exclusion, or preference of persons or nationality, provided they pay the dues and observe the regulations established by the grantee company for the use of the said canal and its dependencies. The transit of foreign troops and vessels of war will be subjected to the prescriptions relating to the same established by treaties between Nicaragua and other powers or by international law. But entrance to the canal will be rigorously prohibited to vessels of war of such powers as may be at war with Nicaragua or with any other of the Central American Republics.

Nicaragua will endeavor to obtain from the powers that are to guarantee the neutrality that in the treaties that shall be made for that purpose they shall agree also to guarantee a zone of land parallel to the canal and also a maritime zone in both

eceans, the dimensions of which will be determined in such treaties.

ARTICLE VII.

This present agreement, with all its charges and advantages, shall be the object of a company of execution in agreement with Articles I, X, and those following thereafter.

Said company shall be the grantee, and whenever said name is used in this present contract, reference is made to it.

ARTICLE VIII.

The present concession is transferable only to such company of execution as shall be organized by the Nicaragua Canal Association, and in no case to Governments or to foreign public powers. Nor shall the company cede to any foreign (tovernment any part of the lands granted to it by this contract; but it may make transfers to private parties under the same restriction.

The Republic of Nicaragua cannot transfer its rights or shares by selling them to

any Government.

ARTICLE IX.

The people of all nations shall be invited to contribute the necessary capital to the enterprise, and it shall be sufficient for the fulfillment of this requirement to publish an advertisement for thirty (30) consecutive days in one of the principal daily papers of each of the cities New York, London, and Paris.

The capital stock of the final company shall be composed of shares, bonds, or obligations of any other kind, in such proportion as it may deem convenient. The issue and transfer of these obligations shall be exempt from stamp dues and from any other imposts or taxes established or that may be hereafter established in the Republic.

Of the capital with which the company shall organize, and which it proposes to distribute among the different countries interested in the enterprise, there shall be reserved at least five (5) per cent for the Central American Government and citizens that may desire to subscribe.

As soon as the company is ready to open subscription books it shall advise the Government of Nicaragna, which will invite the other Governments and through them private parties to subscribe. All such shares not taken within six months following the date on which the Government shall have been advised of that circumstance shall remain subject to the free disposition of the company.

ARTICLE X.

The company shall be organized in the manner and under the conditions generally adopted for such companies. Its principal office shall be in New York, or where it may be deemed most convenient, and it may have branch offices in the different countries of Europe and America, where it may consider it expedient.

Its name shall be the "Maritime Canal Company of Nicaragua," and its board of directors shall be composed of persons, one-half at least, of them shall be chosen from

the promoters who may yet preserve their quality as such.

ARTICLE XI.

The Government of Nicaragua in its character of shareholder in the company of execution, as hereinafter provided, shall have the perpetual right of naming one director, who shall be an integral part of the board of directors of the company, with all the rights, privileges, and advantages conferred upon them by the statutes of the company and the laws of the country under which it shall organize.

The Government shall also have the right in its aforesaid capacity of shareholder

to take part in such elections as the company may hold.

ARTICLE XII.

The company is bound to keep a representative in Nicaragua vested with all powers necessary for the proper conduct of the service and for the transaction of its business with the Government.

ARTICLE XIII.

The canal will follow the valley of the River San Juan to Lake Nicaragua, through which will be designated the most convenient route for communication with the Pacific Ocean. In any event the company shall have the most ample freedom to select the route which it considers most convenient between the two oceans for the excavation of the canal and its dependencies and its ports, particularly those serving for entrance and exit on both oceans. The company shall have the same liberty to adopt the route which may be d emed most advantageous and economical for the construc-

tion of the canal, after the final survey by a commission of competent engineers.

However, should the company, after the survey of the river San Juan, find it necessary to abandon, in any place, the bed of the river, and cut a lateral canal, the Government of Nicaragua reserves the right of requiring from the company the duty of establishing a communication between the part of the San Juan not used for canal purposes and the dividing level of the canal, by means of a lock, or a series of locks, suitable for the navigation of ships of six feet draft. As soon as the final plans are adopted and laid before the Government, it shall notify the company within one month after their receipt whether or not they meet with its approval, in order that the company may proceed in a ccordance therewith. It is understood that this duty does not in any manner compel the company to place or maintain in navigable condition for small craft the lower part of the river which these locks may be intended to place in communication with the canal.

ARTICLE XIV.

Within three years, to be counted from the commencement of the work upon the Interoceanic Canal, the company shall, at its own expense, construct a navigable canal between Lake Managua and the navigable part of the Tipitapa River, near Pasquier, of sufficient dimensions to admit of the free passage of vessels drawing six feet and of 150 feet in length. When completed this canal shall be taken possession by the Government of Nicaragua, and will be, after that date, the property of the Republic, which, by virtue of its ownership, shall be bound to bear all expenses required in the future for the service, maintenance, repair, and operation of the canal. But the company shall have the right to make use of it for all purposes useful for the maritime canal enterprise, and to pass through it freely with its vessels and those belonging to contractors employed in the service of the Interoceanic Canal during the

term of this concession without being subject to any charge whatever, or to pay tolls or contributions of any kind to the Government of Nicaragua or to any person or company that may, through any cause, be in charge of the administration and operation of the work and its dependencies.

The Government of Nicaragua will place at the disposal of the company, free of all expenses and charges, all the lands that may be required, as well as the materials found thereon, or on those belonging to the Government and that may be utilized by the company in the execution of this work.

ARTICLE XV.

All expenditures for surveys, construction, maintenance, and operation of the Interoceanic Maritime Canal shall be borne by the concessionary company, without any subvention in money nor guaranty of interest on the part of the Republic, nor other concessions than those specified in the present agreement.

ARTICLE XVI.

The Company shall construct, at its expense, and maintain, in good condition, twolarge ports, one in the Atlantic and one in the Pacific, to serve as termini of the canal, each of them to have a lighthouse of the first order. It shall also construct at the two points on the borders of the lake, where the canal disembogues, two ports of lesser size, with the respective lighthouses.

The company is also obliged to maintain and improve said ports by means of dredges, dikes, piers, embankments, or any other works it may deem advisable, hav-

ing always in view the good service of the traffic through the canal.

It may, for this purpose, select on the coasts of the two oceans, within the territory of Nicaragua, the localities which the surveys made indicate as preferable.

ARTICLE XVII.

All the space necessary, whether on the main land, in the lake, and its islands, at the ports, roadsteads, or rivers of the two oceans, for the establishment of the canal, its paths, and embankments, for depositing the materials from the excavations, and curtings for the necessary spaces to be occupied by water after raising the dams which are to be constructed in the bed of the river, for all necessary deviations of streams, as well as for reservoirs, dikes, spaces about the locks, stations, lights and beacons, storehouses, buildings and workshops, deposits for materials, and also all those spaces necessary for the routes, rervice railways, and canals of the same nature for the transportation of the materials to the line of the work and for feeders for the canal; in short, all lands and places necessary to the construction and operation of the canal, as laid down in the drawings and plans made by the engineers of the company, shall be placed at the disposal of the company by the State, under the conditions set forth in the following articles.

ARTICLE XVIII.

Said lands belonging to the State will be given to the company without any compensation whatever; and, with regard to those belonging to private parties, the State charges itself with their expropriation if the company so requests. T pensation which may be required in this case shall be paid by the company.

ARTICLE XIX.

In all relating to the appropriation that may be made in conformity with the preceding article, the company shall enjoy all the immunities and privileges which the laws of the country accords to the State; so that in no case shall the company be obliged to pay more than the State would under similar circumstances.

ARTICLE XX.

The Government obliges itself to place the company, within six months after its request, in possession of up to one thousand (1,000) manzanas of land between the lake and the Pacific, at such places as the company shall designate, but they are to serve exclusively for cutting the canal, its havens, ports, and other accessory works. The Government shall on its own account cause the necessary expropriation to be made, and the company shall pay to it for all indemnity the sum of fifty thousand dollars (\$50,000.00) American gold. This payment to be made by the company in Managua within four months after the date of its request.

ARTICLE XXI.

The company shall have the right to take, free of charge, from the public lands, for the purpose of construction, operation, and maintenance of the canal, whatever materials may be found on them, especially timber for construction and for fuel, the line, stone, clay for bricks, and earth for fillings as may be necessary. As regards materials found on private lands, the company shall pay for what it may need thereof, enjoying in this respect the same rights and privileges which the State enjoys according to law.

ARTICLE XXII.

Should the company require to occupy, temporarily and during the construction of the canal, lauds in the territory of Nicaragna which are not included in those designated in articles 17, 18. and 21, it shall not be obliged to pay any indemnity for them if they are public lands; and the state shall not have the right to sell or dispose of them in any other manner after the company has determined to occupy them, unless under the reservation of this right, whose limit shall be the completion of the works on the interoceanic canal. Should the lands belong to private parties the company shall enjoy, in regard to their temporary occupation, all the rights and privileges which the law accords to the state, with the special privilege of occupying them immediately after the declaration of necessity and utility, and after paying the compensation, which shall not exceed that which the state should be compelled to pay in a similar case.

ARTICLE XXIII.

The Republic of Nicaragua, desiring to assist the company efficaciously in the construction of the interoceanic canal, a work in which it takes the deepest interest, cedes in fee simple to the said company the public lands hereinafter mentioned in alternate lots with other similar ones which it reserves to itself, and of the dimensions and in the places as specified hereinafter:

and in the places as specified hereinafter:

1st. On the left bank of the river San Juan, from the Atlantic to Castillo Viejo, lots of three miles frontage on the canal and six miles in depth from the banks of the river. Where the canal diverges more than six miles from the banks of the river the lots are to be measured on both sides of it, and shall be three miles wide and six miles deep. And where this distance is less than six miles the lots shall be three miles front and three miles deep, and they shall be measured from the bank of the canal to the river, taking what may be lacking from the opposite bank of the canal.

2d. Three miles distance trom Castillo up stream, on the right bank and up to the lake, lots of two miles in depth and two of frontage on the canal. From the lake along its south shore to the river Sapoá and thence to the river Lajas, lots of one mile frontage and one mile depth. On the left bank of the river from a point in front of Castillo and up to the lake, lots of three miles of frontage on the canal and four miles in depth.

3d. On the north shore of the lake, as far as the River Tule, lots of two miles front-

age on the lake and two miles deep.

4th. In the places which the company selects in accordance with the government of the existing public lands, forty (40) lots, each four miles frontage by five miles deep, reserving always the acquired rights.

It is understood that the government reserves around each of the forts Castillo and San Carlos the lands included in a circle of one and one-half (11) miles radius, whose

center shall be the respective fortresses.

As a general rule, at the extremities of the interoceanic canal and at its points of contact with the lake, the opposite lots will be allotted one to the government and one to the company, but if this be not possible the first will belong to the government.

From the Atlantic to the lake that part of the river bed occupied by the canal shall be considered as part of the latter for all purposes of this article.

The measurement and setting out of all lands ceded by this contract shall be made

at the expense of the grantees under the supervision of the Government.

The state shall vest in the company the possession of said lands so soon as the said company shall begin operations on the canal. Operations shall be regarded as begun when the provisions set forth in article 47 shall have been complied with. The final title deeds shall not be granted except as the work of the canal progresses and in due proportion.

ARTICLE XXIV.

In the unforeseen case that a new survey should show the necessity of adopting another line for the construction of the canal, which varies wholly or in part from the line set forth in article 13, the company shall have the right to the lands and other elements necessary for the construction of the canal, according to articles 16, 17, 18, 19, 21, and 22.

The company shall, in that event, also have the right to the lands mentioned in the preceding article, in the same proportions, conditions, and dimensions therein established, with the single provise that if it alter the line the localities whence these lands

shall be taken shall be altered accordingly.

ARTICLE XXV.

The state reserves the right to occupy, in the several lots of land granted the company, such places as it may need for such roads and public buildings as it may deem convenient. In the same manner it may use timber and other building materials found on such lands whenever they may be necessary for any work upon which it may determine. However, these lands with all their products, vegetable and mineral, shall be subject to the laws of the country so soon as they become the property of individual citizens by transfer from the company, and then, should the State need them for the ends set forth in this article, or for any others, it shall make compensation to their owners according to law, without any right on the part of the expropriated owners to reclaim against the company.

Should the company have improved the lands so taken for purposes of use, ornament, or pleasure the state shall be bound to reimburse it for such damages as it may

have suffered, according to the assessment of experts.

ARTICLE XXVI.

Mines of coal, stone, gold, silver, iron, or other metals situated in the lands granted to the company shall belong to it by right, without need of previons "denounciation," it having the right to work them when considered expedient, subject to the laws of the country.

ARTICLE XXVII.

The company shall also have the right to utilize for its account, for sale or exportation, the lumber in the forests situated in the lands ceded to it by the state from the time they enter into possession of them in accordance with this contract; that is, from the time of commencement of the works, always saving the acquired rights.

ARTICLE XXVIII.

From the day on which the present concession is ratified by Congress the public lands included in those necessary for the construction of the canal can not be sold, nor can any of those ceded to the company on the banks of the canal by article 23. Nor can they be leased to the prejudice of the company.

ARTICLE XXIX.

The company shall have the right, throughout the extent of the canal as well as at its mouths on both oceans, and in the lake and throughout the extent of the lands ceded by virtue of Articles 16, 17, 22, and 23, to enter upon the work of locating, leveling, excavating, dredging, and in general any other work of whatsoever nature that may be judged useful for the establishment and feeding of the canal, or for its operation, preservation, and maintenance. The company is specially authorized to execute along the canal line and on the banks of the River San Juan and its affluents, within the territory of Nicaragua, and also on the tributaries of Lake Nicaragua, the lakes or water courses which can be utilized in their flow to the Pacific, the system of dikes, rectifications, dredgings, embankments, dams, cuts, location of buoys, and in general all the works that in the opinions of the engineers of the company are deemed indispensable for the construction, feeding, navigation, and operation of the canal. The company may also do all works of like character deemed necessary at the entrances of the canal into Lake Nicaragua, as well as in the lake itself, in accordance with the route that may be determined upon in order to secure in it easy navigation, and as may be found necessary in the other lakes or lagoons that are to be traversed.

The embankments, fillings, and dikes formed in the months of the canal in the lake and in the ports on the oceans, by deposits of materials resulting from the excavations of the canal, shall belong in fee simple to the company; the Government having the right to use them if necessary, after compensation made. But it may never obstruct said ports nor widen the beaches in front of them, unless there is absolute necessity to do so, and in this case the embankments and fillings that it

absolute necessity to do so, and in this case the embaukments and minings that it may be necessary to construct in front of the ports shall belong to the Republic.

In general the company shall have the right to use all the lakes and rivers of Nicaragua, the waters of which may be necessary, in the judgment of the engineers of the company, for the construction and supply of the canal and for maintaining its operations. It being understood that the damages caused to private parties by the deviation of the water courses shall be compensated for by the company according to a just assessment by experts in agreement with the laws of the Republic.

ARTICLE XXX.

The company shall not import merchaudise into the territory of the Republic for the purpose of trafficking without paying the import duties established by law. But it may import free of custom duties, and of any tax whatsoever, the articles needed for the works of the enterprise, such as surveys, examination of localities, construction, use, operation, maintenance, repairs, and improvements of the canal; for the telegraphic service and for that of the railways; for running the workshops the company may keep in operation; and such articles may consist of tools, machinery, apparatus, coal, limestone of all classes, lime, iron, and other metals, raw or manufactured, mining powder, dynamite, or any other analogous substance. These articles may be transported between whatever points they may be required during the works of opening of the canal, and be discharged and stored free of all local taxes.

The company may import free of duties and taxes, during the work on the canal, provisions and medicines absolutely necessary for its own consumption. Goods, the commerce of which is not free, are excepted from the privileges contained in this article, which goods, excepting powder, dynamite, and other explosives, remain sub-

ject to the requisites and duties prescribed by the laws.

ARTICLE XXXI.

The vessels employed by the company as tugboats or for the service of the canal shall be free from all duties and also the materials for their repair and the fuel they use. The vessels and appurtenances from whatever place they may be coming for the use of the company shall also be exempt from all duties.

ARTICLE XXXII.

The Government will establish such regulations as it may judge necessary to prevent smuggling and to maintain public order in the region of the canal.

The company is bound to lend its assistance for the enforcement of such regulations. But in the free zone along the margin of the canal, as hereinafter provided, measures for the prevention of smuggling shall be limited to vigilance on the part of the employé or employés whom it may concern without any further measures being taken against passengers, vessels, or their cargoes, excepting when an attempt at smuggling is discovered; it being the intention of the State that there should be the most ample liberty of transit by the canal for persons and property, with the sole limitations established by this contract. Consequently the company shall have the right to discharge and reload ships in transit at such points as may be necessary in order to make repairs, lighten the vessel, shift cargo, or on account of any accident that renders it absolutely necessary, without being subject to search, exactions, or contributions of any kind, provided that in each case, and before beginning operations, the nearest customhouse authority shall be notified.

ARTICLE XXXIII.

The Government shall lend its protection, in conformity with the laws of the country, to the engineers, contractors, employées, and laborers engaged in the preliminary surveys or in the works of construction and operation of the canal.

ARTICLE XXXIV.

The company shall be exempt from all forced loans and military exactions in time of peace and of war. The foreign agents and employées shall likewise be exempt from direct contributions, forced loans, and military exactions during the time they are in the service of the canal, but they shall pay the taxes established by the laws if they acquire real property.

ARTICLE XXXV.

The company may freely introduce immigrants into the lands ceded to it, and the employés and workmen needed in its works and workshops. Asiatics, however, are excepted. Both the immigrants and the employés and workmen will be subject to the laws of the Republic and the regulations of the company. The Government assures them aid and protection and the enjoyment of their rights and guarantees in conformity with the constitution and the national laws during the time they remain on Nicaraguan territory.

ARTICLE XXXVI.

The Government of Nicaragua assures to the company and its agents under the laws of the country, as it does to the other inhabitants, the full enjoyment of the guarantees and rights which the constitution and the same laws grant to them. And reciprocally the company and its agents bind themselves strictly to respect the laws and regulations that are in force in Nicaragua, and especially to comply with the executory judgments of the tribunals without considering themselves vested with other rights than those which the laws concede in favor of the Nicaraguans.

ARTICLE XXXVII.

The Government shall establish all along the line of the canal included between the two terminal ports such police stations and revenue offices as in its judgment are necessary to preserve order in the region of the canal and for the observance of the fiscal laws of the Republic. All expenses incident to this service, including those of buildings, endowments, salaries and allowances of employées, and transportation of the forces, shall be paid to the Government by the company on such terms and conditions as may be established, taking into consideration the requirements and necessities of such service. The company, however, shall have the power to establish guards and watchmen for the service of the canal and the enforcement of its regulations.

ARTICLE XXXVIII.

Contracts for labor on the canal shall enjoy the privileges which the laws of the country accord to agricultural contracts, provided they be clothed with the formalities that the laws require in such contracts. And the contracts in regard to canal labor that the company execute in foreign countries shall be valid and lawful in Nicaragua during the term stipulated in them, provided they do not violate the laws of the Republic; provided also the documents containing them be presented to the proper authorities, with due authentication, that they may be registered.

ARTICLE XXXIX.

The company shall be exempt during the period of this concession, in peace and in war, from all manner of taxes upon the real property it may acquire by virtue of this contract, and from every kind of direct contributions, local taxes, or any other tax relating to the property and use of the canal, its buildings, and constructions appertaining thereto, in its entire length, including those that are situated in the ports and maritime establishments on the two oceans, as also the lands conceded to the company for the whole term of the privilege. This franchise is not assignable to those who buy the real estate which the company may dispose of by virtue of this concession.

ARTICLE XL.

The Republic of Nicaragua shall not establish any tonnage, anchorage, pilot, lighthouse dues or charges of any kind whatsoever upon vessels of whatever class, or upon the merchandise, baggage, and passengers which may pass through the canal from one ocean to the other, all such dues being reserved for the benefit of the company, as hereinafter set forth in article 43.

But all such merchandise as shall be loaded or discharged at any point of the canal intended for sale shall pay the import and export duties fixed by the revenue laws of

the state.

ARTICLE XLI.

With the view of securing the most ample freedom in the transit of persons and property, and in order to remove as far as possible occasions for disagreeable questions, there shall be on each side of the canal a free zone, the extent of which shall be one hundred yards measured from the water's edge in the canal, it being understood that the borders of the lake shall not be considered as margin of the canal for the purposes of this stipulation.

All traffic declared illegal by the laws of the Republic shall be prohibited within the said zone, and the revenue authorities charged with watching and preventing

smuggling shall act in conformity with the stipulations in article 32.

It is expressly agreed that every vessel that passes through the canal shall carry on board an officer named by the Government when the authorities think it necessary, and this employé shall act in conformity with the law in case he discovers its infringement.

The two ports to be constructed for the entrance and exit of the canal on the two oceans shall be declared free ports, and they shall be recognized as such from the

beginning of the work to the termination of this concession.

The Government in agreement with the company shall establish, by special degree, the limits of the freedom of these ports, which limits shall not extend beyond the waters of the port, which are those included between the mouth of the canal and the entrance to the said ports.

ARTICLE XLII.

For the proper administration of the canal and its appurtenances, and in order to facilitate its construction and operation, the company shall establish the necessary regulations, which shall be binding on all persons found in its waters or its appurtenances, the sole reservation being that the rights and sovereignty of the State be respected.

It being understood that the company in the exercise of the powers conferred by this article may not make other regulations than those necessary for the administration and particular management of the canal, and that before executing and enforcing these regulations they shall be submitted to the Government for approval. The state will lend the aid of its authority for the enforcement of these regulations.

ARTICLE XLIII.

By way of compensation for the expenses of surveys, construction, maintenance, and operation of the canal, which under the present concession shall be at the cost of the company during the period of said privilege, it shall have the right to establish and collect for the passage of all kinds of vessels, travelers, and merchandise through the canal, and in the waters and ports pertaining to it, taxes on navigation, tonnage, and pilotage, towage, storage, lay days, anchorage, light, roadstead dues, wharfage, hospital dues, and any other similar charges in conformity with the tariff to be established by it in accordance with Article LHI of this contract.

These tariffs may be modified by the company at any time on condition that all modifications that may be introduced shall previously be communicated to the Government, which, in case of finding them within the limits established by the said Article LII, shall cause them to be complied with as if they were regulations enacted

by itself.

The payment of all the tariff dues shall be exacted without any exception or preference, and under identical conditions, from all vessels, whatever be the place they come from or their nationality, with the exception stipulated in the following article.

ARTICLE XLIV.

As compensation for the privileges and concessions that Nicaragua grants by this contract, it is hereby stipulated that the Republic shall enjoy the special privilege that Nicaraguan vessels sailing under the Nicaraguan flag may navigate the canal at a reduction of fifty (50 per cent.) per centum from the general tariff while engaged in the coasting trade or in the reciprocal trade with the other Republics of Central America. It is declared that the vessels referred to in the preceding paragraph must be exclusively of the register of the Republic, and they must not be owned, either in whole or in part, by citizens of other countries.

A reduction of fifty (50 per cent.) per cent. from the general tariff is also granted to vessels that begin their voyage for a foreign country in any of the ports belonging to the Republic, with a cargo wholly composed of products of the country. All the

privileges to which this article refers shall be extended to the other Republics or Central America whenever Nicaragua shall find itself free from international obligations which may prevent it, or whenever one or more of the said Republics shall form a single nation with Nicaragua. The company can not collect any navigation dues whatever upon vessels and craft navigating the lake of Nicaragua and its prolongations without passing out of the locks. The Nicaraguan vessels of war, and in the case above provided those of the Republic of Central America, shall not pay any dues on passing through the canal.

ARTICLE XLV.

In case it may be possible to utilize the waters of the canal and its dependencies for the irrigation of plantations, gardens, and streets, or for the supply of towns that may be without it, or as motive power for private enterprises, the company shall have power to supply it, collecting dues in proportion to the amount furnished, according to the tariff that it may be establish in agreement with the Government.

ARTICLE XLVI.

In view of the existence of an exclusive privilege granted by the Republic in favor to Mr. F. Alf. Pellas, by a contract ratified on the 16th of March, 1877, for the navigation by steam on the lake and river for the purposes of the internal commerce of the Republic, the canal company shall have the right of expropriation against Mr. Pellas, as regards his rights and properties, on just assessments by experts, after making a corresponding compensation according to the laws of the Republic.

It is also stipulated that the company binds itself to pay to the Government of the Republic all it may from now on expend in any way for the improvement of the navigation of the river and the port of San Juan del Norte. This payment shall be made within six months of the date of the beginning of the works of the capal, and ac-

cording to the original accounts of the corresponding office.

ARTICLE XLVII.

The company shall undertake at its expense the final surveys of the ground and the location of the line of the canal by a commission of competent engineers, two of whom shall be appointed by the Government of the Republic, which shall protect as far as

it may the said commission.

There is granted to the concessionary company a term, not exceeding one year, in which to commence the final surveys for the canal, and one year and one-half additional for completing them; to organize the executing company, and commence the work of construction. Said terms snall begin to be counted from the date of the ratification of the present contract by the Nicaraguan Congress, published in the official paper, which shall be construed as notification. Furthermore, said terms are not to be extended, and it is understood that operations are not considered to have been begun if during the first year of the work two million dollars (\$2,000,000) are not expended on it.

ARTICLE XLVIII.

A term of ten years is also granted to the company for the construction, completion, and opening of the canal for maritime navigation. However, should events of main force arise, duly justified and sufficient to impede the regular progress of the works during the period of the said ten years, an extension shall be granted equal in dura-

tion to the time that may have been lost by such delays.

If, at the expiration of the ten years aforesaid, the works should not be completed so as to have the maritime communication between the two oceans opened, in consideration of the great capital the company may have invested in the enterprise, and of the good will and ability it may have shown, and the difficulties encountered, the Republic binds itself to concede a new extension.

ARTICLE XLIX.

As a guaranty of the fulfillment of the obligations which the company incurs in accordance with Article 47, it shall deposit to the order of the Government of Nicaragua in a bank or in a mercantile house in the city of New York, which the Government may designate and within sixty (60) days from the date of the ratification

of this contract, the sum of one hundred thousand (\$100,000) dollars. American gold. which the company shall forfeit to the Republic if it do not fulfill the said obligations: and which sum otherwise shall be considered an advance to the Government on aci count of the necessary expenses of payment of the police of the canal according to the stipulations set forth in Article 37. This deposit, as soon as made, shall be at the disposal of the Government.

ARTICLE L.

In consideration of the valuable privileges, franchises, and concessions granted to the company by this contract, the Republic shall receive in shares, bonds, certificates or other securities which the company may issue to raise the corporate capital, six per centum of the total amount of the issue.

Such shares, bonds, certificates or other securities shall be free of all payment on the part of the Republic, being considered as paid in full. The six per centum shall in no event be less than four million dollars (\$4,000,000), that is to say, forty thousand shares or obligations of whatsoever kind of one hundred (\$100) dollars each.

Of said shares, bonds, certificates, or securities of whatsoever class, two-thirds shall not be transferable; but all shall participate in the benefits, interests, partitions, dividends, sinking funds, rights, privileges, and in all the advantages given to paid up shares without any distinction. The Government in its capacity of shareholder shall besides have the right to appoint one director who shall represent its interest in the board of directors of the canal company from the time of its definite establish-The shares referred to in this article shall be delivered to the agent the Government may appoint to receive them and as soon as the company shall be ready to issue the certificates for its capital.

ARTICLE LI.

In order that the canal association may indemnify itself for the expenses it may have had to incur for the verifications, preparations, explorations, and surveys hereinbefore mentioned, and for all other expenditures that it will have to make until the definite organization of the company, it shall have the right from the time of the organization of said company to six per cent. in shares, bonds, certificates, or other securities which the company may issue for the purpose of raising the corporate capital, and which are to be issued in excess of the capital to be subscribed.

These bonds, shares, or securities shall be identically like the subscription shares, and issued from the same register or stock book. As a consequence they shall participate in all benefits, interests, partitions, dividends, sinking fund, rights, privileges, and of all the advantages given to the paid up shares, bonds, or securities without

any distinction whatever.

ARTICLE LII.

From the receipts of the enterprise the company shall take in the first place the necessary amount to cover all the expenses for maintenance, operation, and adminis tration; all the sums necessary to secure the interest which shall not exceed six per centum, and the amortization of the obligations and of the shares, and what remains shall form the net profits, of which at least eighty per centum (80 per cent.) shall be divided among the shareholders, it being agreed that after the lapse of ten years after the completion of the canal the company shall not divide among the shareholders in payment of dividends, directly or indirectly, by issue of shares or otherwise, more than fifteen per centum (15 per cent.) annually or in this proportion, from dues collected from the aforesaid canal and where it shall appear that these dues yield a greater profit, they shall be reduced to the fixed limit of fifteen per cent. per annum.

ARTICLE LIII.

The present concession shall be forfeited:

1st. Through the failure on the part of the company to comply with any of the conditions contained in Articles 8, 46, 47, 48, and 49.

2d. If the service of the canal, after its completion, be interrupted for six months,

except in cases of main force.

When the concession shall have been declared forfeited, from whichever of these causes the public lands granted by this convention will revert to the Republic, in whatsoever state they may be, and without compensation even in the case that buildings may have been erected thereon.

Such lands shall be excepted as may have been alienated to private parties by the company, with the formalities prescribed by law, provided that such alienations shall not have taken place within the six months preceding the date on which the company may have become legally liable to the penalty herein established.

ARTICLE LIV.

On the expiration of the ninety-nine years stipulated in this concession, or in the event of the forfeiture contained in the preceding article, the Republic shall enter upon possession in perpetuity, of the canal, of works of art, lighthouses, storehouses, stations, deposits, stores, and all the establishments used in the administration of the

canal, without being obliged to pay any indemnity to the company.

There shall be excepted from this condition, the vessels belonging to the company, its stores of coal and other materials, its mechanical work shops, its floating capital and reserve fund, as also the lands ceded to it by the State, excepting those in which are established the works indicated in the first part of this article, and which will revert to the State together with their immediate appurtenances, as necessary for the service of the canal, and as an integral part of the same.

But the company shall have the right, at the expiration of the aforesaid term of ninety nine years, to the full enjoyment of the free use and control of the canal in the capacity of lessee, with all the privileges and advantages granted by the said concession, and for another term of ninety-nine years, on the condition of paying twenty-five per cent of the annual net profits of the enterprise to the Government of the Republic, besides the dividends due to it for its shares in the capital stock.

The company furthermore shall have the right to fix, at its discretion, the dues referred to in article 43 of this concession, so that the shareholders still receive dividends not to exceed ten per centum per annum on the whole capital after deducting

the payment of twenty-five per cent of the net gains to the Government.

At the expiration of this second term of ninety-nine years the Government shall enter into perpetual possession of the canal and other properties referred to in the first part of this article, including also in this possession all that which is excluded in the said first part with the exception of the reserve and amortization funds. failure to comply with any of the terms of the lease shall terminate it, and the State shall enter into possession of the canal and other works belonging to it in accordance with the provisions of the preceding paragraph.

ARTICLE LV.

Any misunderstanding that may arise between the State of Nicaragua and the company in regard to the interpretation of the present stipulations shall be submitted to a court of arbitrators composed of four members, two of which shall be appointed by the State and two by the company.

These arbitrators shall be designated by each of the parties within the period of four months from the day on which one of the contracting parties shall have informed the other in writing of the want of agreement on the point at issue. Should one of the parties allow the aforesaid term to pass, it shall be considered as assenting to the

opinion or claim of the other.

The majority of the votes of the arbitrators shall decide finally and without reurse. In case of a tie vote the arbitrators shall select, by mutual consent, a fifth person, who shall decide. If unable to agree to such nomination, they shall draw by lot the names of the diplomatic representatives accredited to Nicaragua, and the first one drawn out shall exercise the functions of the fifth arbitrator; he shall either adopt the opinion of one or the other of the parties to the controversy, or render his opinion between these extremes, and his decision shall be final and without any appeal whatever; the fifth arbitrator failing, the second person drawn shall exercise these functions, and so on successively until a decision is reached.

Prior to the initiation of the works of opening the canal the Government shall formulate, with the concurrence of the company, rules to be observed by the arbitra-

tors in all matters relating to procedure.

Questions between the company and individuals residing in Nicaragua shall be under the jurisdiction of the ordinary tribunals of Nicaragua, in conformity with the legislation of the country. In matters pertaining to nonresidents of Nicaragua the rules of international private law will be observed.

In witness of the foregoing stipulations, we have signed two instruments of the same tenor in Managua, on the 23d day of March, one thousand eight hundred and

eighty-seven.

AD. CARDENAS. A. G. MENOCAL.

The Government, finding the foregoing contract in conformity with the instructions transmitted, determines to approve it in all its parts and to submit it to Congress for its ratification.

Managua, April twelfth, one thousand eight hundred and eighty-seven.

E. CARAZO.

The acting subsecretary of the interior.

CANTON.

Done in the hall of sessions of the chamber of deputies, Managua, April 20, 1887.

Tomás Armijo.

Leopoldo M. Montenegro.

LUIS E. SAENZ.

To the S. E. P., hall of the senate, Managua, April 23, 1887.

S. MORÁLES.

JOAQUIN ZAVALA.

ELIODORO RIVAS.

Therefore be it executed. Managua, April 24, 1887.

E. CARAZO.

The subsecretary of the interior in charge of the office:

ALEJANDRO CANTON.

Accepted on the same date.

CANTON. A. G. MENOCAL.

I do hereby certify the preceding signature of the subsecretary of the interior, which reads Alejandro Canton, to be genuine.

Managua, April 25, 1887.

JOAQUIN ELIZONDO.

APPENDIX K.

CONCESSIONS AND DECREES OF THE REPUBLIC OF COSTA RICA TO THE NICARAGUA CANAL ASSOCIATION OF NEW YORK.

The Constitutional Congress of the Republic of Costa Rica, in the exercise of the

powers granted to it by section 4, article 73, of the constitution, decrees-

ARTICLE FIRST.—The contract entered into on the 21st of July last between the honorable minister of public works, authorized for this purpose by the honorable President of the Republic, on behalf of the Government of the same, and Mr. Aniceto G. Menocal, on behalf of the Nicaragua Canal Association, for excavating and operating an interoceanic canal crossing, either in whole or in part, through the territory of the Republic, or running along the whole or part of its boundary with Nicaragua, is hereby approved.

The aforesaid contract with the modifications agreed to by Congress reads literally

as follows:

The undersigned, Pedro Pérez Zeledón, secretary of the state bureau of public works, especially authorized by the honorable general, President of the Republic, to celebrate ad referendum the present contract, party of the first part, and Aniceto G. Menocal, representing the Nicaragua Canal Association, with full powers from it, and also authorized for this purpose by the executive committee of the said association, party of the second part, have revised the contract for the canal made in Washington on the 17th of last May, by the party hereto of the first part, in his capacity as envoy extraordinary and minister plenipotentiary of the Republic of Costa Rica to the Government of the United States of America, and Mr. Hiram Hitchcock, president of the aforesaid association; the said contract, with the modifications now agreed to by the undersigned, reads as follows:

ARTICLE I.

The Republic of Costa Rica grants to the Nicaragua Canal Association, its successors and assigns, the exclusive privilege to excavate and operate a maritime canal between the Atlantic and the Pacific Oceans, running either wholly or in part through the territory of the said Republic or along the whole or a part of her border line with the Republic of Nicaragua.

To render this contract fully efficient between the contracting parties hereto, it will be sufficient if the association aforesaid should use or occupy for the works of the said canal, or for any of its ports in one or the other oceans, any Costa Rican waters or at least waters in which Costa Rica has joint ownership or has rights of

use and navigation.

Whenever the word "association" is used in this present document reference is made to the "Nicaragua Canal Association," its successors and assigns.

ARTICLE II.

The canal must be of sufficient dimensions for the free and commodious passage of vessels of the same size as the large steamers used for ocean navigation between Europe and America.

ARTICLE III.

The State leclares this work to be one of public utility.

ARTICLE IV.

The duration of the present privilege shall be for ninety-nine years, to be counted from the day on which the canal shall be opened to universal traffic.

During the aforesaid period the association shall have the right to construct and operate within the territory of Costa Rica a railroad along the whole extent of the said canal, or those parts of the same which it may consider convenient for the better service and operation of the said work.

The Republic binds itself not to make any subsequent concession for the opening of

a canal between the two oceans as long as the present privilege lasts.

The Republic will also abstain during the same period from granting, within a zone of twenty-five miles along the caual, concessions for railroads from sea to sea that might compete with the canal in the traffic between foreign nations. This restriction shall not prevent the construction of new railroads that may be convenient for Costa Rica to build to the canal, or to any point on the northern frontier of the Republic, either connecting or not with any other railroads.

ARTICLE V.

The grantee association shall have the right to establish such telegraph lines as may be considered necessary for the construction, management, and operation of the

The Government shall have the right to use the telegraph lines of the company from any station to any station that may be included within the line from sea to sea, without being obliged to pay the company for such service.

ARTICLE VI.

The Government of the Republic declares and accepts that the ports at each extremity of the canal and the canal itself from sea to sea during the time of this concession shall be neutral; and consequently in case of war between other nations, or between one or more nations and Costa Rica, the transit through the canal shall not be interrupted for such cause, and the merchant vessels and individuals of all nations of the world may freely enter the aforesaid ports, or pass through the canal without molestation or detention.

In general, all vessels shall freely pass through the canal without distinction, exclusion, or preference, whether of persons or nationalities, provided that they pay the dues and comply with the rules established by the association for the use of the said

canal and its dependencies.

The transit of foreign troops and vessels of war shall be regulated by such provisions in regard thereto as are now or may be hereafter established in the treaties between Costa Rica and other powers, or by international law. But the entrance of the canal shall be strictly forbidden to vessels of war of any nation which may be at war with Costa Rica or with any other of the Republics of Central America.

Costa Rica shall endeavor to obtain from the powers that are to guarantee the neutrality that in the treaties to be made for that purpose they shall also bind themselves to guarantee the same conditions to a zone of land parallel to the canal and also to a maritime zone in both oceans, the dimensions of which shall be fixed by such

treaties.

ARTICLE VII.

The present concession shall be transferable only to such company or companies as may be organized for the purpose of constructing or operating the canal, and in no case to foreign Governments or to foreign public powers.

Nor shall the association have the right to transfer to any foreign Government or public power any part of the lands granted to it by this contract. But it shall have the right to make such transfers to private parties upder the same restrictions.

The Republic of Costa Rica shall not transfer its rights and privileges in respect to

the canal to any foreign Government or public power.

The people of all nations shall be invited to contribute the necessary capital to the enterprise, and it shall be sufficient for the fulfillment of this requirement to publish an advertisement for twenty consecutive days in one of the principal daily papers of each of the cities New York, London, and Paris.

ARTICLE VIII.

The capital stock (capital social) of the final company which is to operate the cana shall consist of shares of the face value of one hundred dollars each, which shall be issued in such amounts as may be deemed necessary. The issue and transfer both of these shares and of all the bonds and obligations that the company may issue shall be exempt from stamp dues and from all other taxes or imposts now established or to be hereafter established in the Republic.

A five per centum, at least, of the capital stock with which the said company may be organized shall be reserved for such Central American Governments and citizens as

may wish to subscribe.

As soon the said company is ready to open subscription books notice shall be given by it to the Governments of Costa Rica and Nicaragua, which shall invite the other

Governments of Central America and through them private parties to subscribe.

The shares which, within six months, to be counted from the date of the notice given to the Government, of the opening of the subscription books, are not paid for

shall remain at the free disposition of the company.

ARTICLE IX.

The company shall be organized in the manner and under the conditions generally adopted for such companies. Its principal office shall be either in the city of New York or in such place as may be deemed convenient.

Its first board of directors shall be composed of persons, one-half, at least, of whom shall be chosen from those members of the Nicaragua Canal Association who were

promoters of the enterprise.

ARTICLE X.

The Government of Costa Rica, in its capacity of stockholder in the final company as hereinafter provided, shall have the perpetual right of appointing one director, who shall be an integral part of the board of directors of the said company, with all the rights, privileges and advantages conferred upon the other directors of said company, by the charter, by-laws, and statutes of the company and the laws of the country under which it shall organize.

The Government, in the said capacity of stockholder, shall also have the right to

take part in the elections that the company may hold.

ARTICLE XI.

The said final company is bound to keep a representative in Costa Rica, vested with ample powers for everything that may be of interest to the company, either actively or passively.

ARTICLE XII.

The association shall have the most ample liberty to select and adopt the route which it may deem most convenient, advantageous and economical between the two oceans for the excavation, construction, and operation of the canal and its dependencies and ports, whether the same passes wholly or in part through the territory of Costa Rica or only along its border line.

Should the canal deviate from the river San Juan, in that section of the same in which Costa Rica has the right of navigation, the association binds itself to establish at such points as the engineers may deem proper, a communication between such parts of the San Juan River as may not be canalized and the dividing level of the canal, to the end of facilitating, without payment of any dues whatever, the navigation of Costa Rica vessels between the non-canalized part of the San Juan River and the canal, by means of a lock or series of locks suitable for the navigation of vessels of six feet draught.

It is understood that this obligation does not in any manner bind the association to place or to keep in navigable condition the lower part of the river which these locks

may be intended to place in communication with the canal.

ARTICLE XIII.

All expenditures for surveys, construction, maintenance, and operation of the canal shall be borne by the association without any subvention in money or guaranty of interest on the part the Republic.

ARTICLE XIV.

The association shall construct, at its expense, and shall keep in good condition, two large ports, one on the Atlantic and one on the Pacific, at such points or localities as it may select within or without the territory of Costa Rica, to serve as termini of the canal; and each of them shall have a light-house of the first order.

ACTICLE XV.

All the area within the territory of Costa Rica, whether at the ports, roadsteads, or rivers of the two oceans, which may be necessary for the establishment of the canal, its paths, and embankments, or which may be occupied and covered by water after raising the dams which are to be constructed in the beds of the rivers, or for all necessary deviations to be made, as well as for reservoirs, dikes, spaces about the locks, stations, light-houses, and canals, store-houses, buildings, and workshops, deposits for materials, and also all those required for the routes, service railways, and canals of the same nature, for the transportation of materials to the line of the work, and for feeders of the canal; in short, all lands and places within the territory of Costa Rica necessary to the construction and operation of the canal, as may be laid down in the final drawings and plans made by the engineers of the association, shall be placed by the State at the disposal of the said association under the conditions set forth in the following articles.

ARTICLE XVI.

Such unappropriated lands as belong to the State shall be given to the association without any compensation whatever, and with regard to those lands belonging to private parties the state undertakes to condemn them should the association demand it.

The compensation which, in agreement with the laws of Costa Rica, may have to be paid in such cases, shall be paid by the association, and to it shall be added the amount of the expenses and costs of the respective actuations, in such a way that the national treasury shall suffer no loss.

ARTICLE XVII.

In all relating to the condemnation to be made under the provisions of the preceding articles the association shall enjoy all the immunities and privileges that the laws of the country grant to the state, so that the association may not be obliged to pay more than the state would under similar circumstances.

ARTICLE XVIII.

For the construction, maintenance, and operation of the canal the association shall have the right to take free of charge from the lands belonging to the State whatever material of a spontaneous production of the land that may be found on them, especially timber for construction and fuel, and limestone, clay for bricks, and earth for fillings that are to be made. As regards materials of the said class found on lauds belonging to private parties, the association shall have the same rights and privileges granted by the laws to the State.

ARTICLE XIX.

If it should be necessary for the association to occupy temporarily and during the construction of the canal lands in the territory of Costa Rica which are not included in those designated in the Articles XV, XVI, and XVIII, it shall not be obliged to pay any compensation for them if they are unappropriated lands. And the state shall not have the right to sell or dispose of them in any other manner after the association has once determined to occupy them, unless under the reservation of this right, the limit of which shall be the execution of the works of the Inter-oceanic Canal. Should the said lands belong to private parties, then the association shall enjoy, so far as the temporary occupation thereof is concerned, all the rights and franchises which the laws grant to the State, with the special privilege of occupying them immediately after the declaration of utility and necessity and after payment of the proper compensation, which shall never exceed that which the state would be obliged to pay in a similar case.

ARTICLE XX.

The Republic of Costa Rica desiring to aid efficiently the association in this enterprise cedes in fee simple to the said association the public lands hereinafter mentioned, in alternate lots, with other similar ones which it reserves for itself, to wit:

1st, On the right or southern bank of the San Juan River, from a point three English miles below Castillo Viejo to the confluence of the San Carlos, should the canal follow the valley of the San Juan, lots fronting on the canal three English miles front by six deep.

2d. Between the San Carlos River and the Atlantic, should the canal pass wholly or in part through the territory of Costa Rica, or along the boundary of Costa Rica,

lots of three English miles frontage on the canal and four deep.

3d. Should the route of the Selinas Bay be adopted, lots of two English miles frontage on the canal by two deep in the Costa Rican territory crossed by the canal or along which it may run, from the Pacific Ocean to a point two English miles distant from the mouth of the Sapea River in the Lake of Nicaragua.

4th. Should the canal deviate from the San Juan River more than four miles towards the interior of Costa Rica, lots to be measured on both sides of the canal of two miles front and two deep. Should the deviation be less than four miles, then the lots of the northern bank of the canal shall have a front of two miles and extend in depth until they touch the San Juan River.

5th. From the Rio Frio to the Sapoa on the south coast of the Lake of Nicaragua, at two miles distant from the same and following the curve of its bank, lots of two

English miles front by two deep.

6th. In the places where the company in accordance with the Government may select from the existing unappropriated public lands twenty-five lots, each two English miles in frontage by four deep. As a general rule, at the extremities of the Inter-oceanic Canal, should the same be within the territory of Costa Rica, the opposite lots will be allotted, one to the Government and one to the company; but, if this be not possible, the first will belong to the Government.

The state shall vest in the association the posession of said lands as soon as the location of the canal is finally determined and its construction begun by the associa-

tion.

The rights required by private parties in the lands set forth in the preceding clauses

are hereby reserved.

The measurement and setting out of all lands ceded by this contract shall be made at the expense of the grantee, with the intervention of the government.

The final title deeds shall be issued in due proportion as the work advances and

Between the Atlantic and the point three miles below Castillo Viejo all parts of the San Juan and Colorado rivers occupied by the canal shall be considered, for the

purposes of the present article, as a part of the said canal.

It is hereby understood that the whole of the lands transferred to the association by Costa Rica, in the different places and in the form as set forth in the foregoing article, shall not exceed in amount one-fourth of the total amount of lands granted to the company by the Government of Nicaragua, according to the contract made by it. Should they exceed such amount, the difference shall be deducted by reducing the number of lots mentioned in subdivision 5th of this article.

ARTICLE XXI.

The state reserves the right to occupy, in the several lots of land ceded to the Association, such space as may be needed for such roads and public buildings as it may deem convenient. In the same manner it shall have the right to use timber and other building materials which may be found on said land whenever they may be necessary for any work upon which it may determine. Should these lands become the property of private persons by virtue of a transfer made by the company, and the State should need them for the purpose set forth in this article, or for some other purposes, it shall pay their owners for them in conformity with the laws, and the expropriated parties shall have no right or claim against the association.

Should the association have made improvements on the lands referred to whether for the purposes of utility, ornament, or pleasure, the State shall be bound to com-pensate it for such damages as it may suffer according to appraisals of experts.

ARTICLE XXII.

Mines of coal, gold, silver, iron, or other metals, and stone quarries situated in the lands ceded to the association shall belong to it by right without the necessity of previous denunciation, and it shall have the right to work them whenever it may deem it convenient, subject to the laws of the Republic, but such lands as may be transferred by the association to private parties shall not enjoy this privilege.

ARTICLE XXIII.

The association shall also have the right to utilize for the works of the canal and its appurtenances the timber in the forests situated in the lands granted to it by the state from the very moment from which it enters into possession of the same under the present contract, the acquired rights always being reserved.

ARTICLE XXIV.

From the day in which the present concession shall be ratified by Congress, no alienation shall be made of any unappropriated lands necessary for the construction of the canal nor of those ceded to the association on the banks of the same. Nor shall the said lands be leased to the prejudice of the company. However, should the location of the canal not be definitely settled when this contract is ratified, the line of the canal shall for the purposes of this article be presumed to follow the northern boundary line of Costa Rica.

ARTICLE XXV.

The association shall have the right of doing throughout the whole extent of the canal within the territory of Costa Rica, at the months of the canal on the two oceans, and in the whole extent of the lands which under the present contract have been granted to it according to articles 15, 16, and 20, all such works as may be necessary for locating, leveling, excavating and dredging the canal, and all other works that may be required for the establishment, feeding, operation, preservation, and maintenance of the canal.

The association is especially authorized to make along the line of the canal and on the Costa Rican bank of the San Juan River and its Costa Rican affluents and confluents, as well as on the Costa Rican rivers tributary to the Lake of Nicaragua, the lakes or water courses which may be utilized in their flow to the Pacific or to the Atlantic; to construct dikes and dams; make rectifications, dredgings, embankments, and deviations; to locate buoys, and in general to do all the works that in the opinion of the engineers of the association may be deemed indispensible for the construction, feeding, navigation, and operation of the canal. The embankments, fillings, and dikes which may be made within the territory of Costa Rica at the mouths of the canal on the ports on the two oceans, by using materials resulting from the excavation of the canal, shall belong in fee simple to the association; but the Government shall have the right to occupy them in whole or in part after compensation made. Should any port of the canal be within the territory of Costa Rica, the association shall not obstruct such port nor widen its beaches unless there is absolute necessity to do so, and in this case the embankments and fillings that it may be necessary to construct in front of said port shall belong to the Republic.

In general the association shall have the right to use all the lakes and rivers of Costa Rica the waters of which may be necessary in the judgment of the engineers of the association to construct and feed the canal and to maintain its operations, but this right shall have the following restrictions, to wit:

1st. The navigation of the Costa Rican rivers, which the association may dam or otherwise use for the benefit of the canal, shall remain at the termination of the respective works in as good condition as it was before they were made.

2d. In the places where the waters of said rivers may overflow in consequence of the erection of dams or other artificial obstructions made by the association, the said association shall be obliged to do whatever may be practicable to prevent the formation of swamps and marshes.

3d. Such damages as may be caused to private parties in consequence of the deviation or elevation of the streams shall be compensated for by the association according to appraisals made by experts in conformity with the laws of the Republic, but the association shall not be obliged to pay more than the state would under similar circumstances.

ARTICLE XXVI.

The association can not inport merchandise into the territory of the Republic for the purposes of trafficking withit without paying the custom duties established by law, but it shall have the right to import free from custom duties and of any other imposts whatsoever the articles needed for the works of the enterprise, its surveys, explora-

tions, examination of localities, constructions, use, operation, maintonance, repairs, and improvements of the canal, and also for the telegraphic and railroad service of the same, and for the works and workshops of the company, and the said articles may consist of implements, machinery, apparatus, coal, limestone of all classes, lime, iron, and other metals, whether raw or manufactured, mining powder, dynamite, or any other analogous substance. These articles may be transported between whatever points they may be needed during the work of the construction of the canal, and shall be landed and stored free from all local taxes.

The association shall also have the right to import free from duties or imposts, during the work of constructing the canal, such provisions, clothing for the workmen,

and medicines as may be absolutely necessary for its own consumption.

Those articles the commerce of which is not free are excepted from the privileges granted in this article and shall remain subject, with the exception of gunpowder, dynamite, and other explosives, to such requisites and duties as are established by law.

ARTICLE XXVII.

The vessels that the association may employ as tug boats or for the service of the canal shall be free from all imposts or taxes of any kind whatever, and also the material to be used for their repair and the fuel that they may consume.

The vessels and their appurtenances, from whatever place they may come, for the

service of the association shall be exempt from all duties and imposts.

ARTICLE XXIII.

The Government shall enact such regulations as it may deem necessary to prevent smuggling and for the preservation of public order in the region of the canal lying within the territory of Costa Rica or bordering on it and in the waters where it may exert joint jurisdiction. The company shall be bound to lend its assistance for the enforcement of such regulations. But in the free zone along the margin of the canal as hereinafter provided, measures for the prevention of smuggling shall be limited to vigilance on the part of the employé or employés whom it may concern, without right to any further measures, either against passengers, vessels, or their cargoes excepting when an attempt at smuggling may be discovered; it being the intention of the State that there shall be most ample freedom of transit through the canal for persons and property, with the sole limitations established by this contract. Consequently the association shall have the right to unload and reload ships in transit at such point as may be necessary in order to make repairs or lighten the vessels or shift their cargoes, or on account of any accident that unavoidably may render it necessary, without being subject thereby to search, exactions, or contributions of any kind, provided in each case, and before beginning operations, notice is given to the nearest custom house authority.

ARTICLE XXIX.

The Government shall afford its protection, in conformity with the laws of the Republic, to the engineers, contractors, employés, and laborers that may be engaged in the preliminary surveys or in the works of construction and operation of the canal.

ARTICLE XXX.

The association shall be exempt from all forced loans and military exactions whether in time of peace or of war. The foreign agents or employés shall also be exempt from direct taxes, forced loans, and military exactions during the time in which they are in the service of the canal, but they shall pay the direct taxes established by law in case they may become owners of real property or commercial or industrial establishments.

ARTICLE XXXI.

The association may freely introduce into the lands granted to it employés and laborers of every race who may be needed in its works and workshops; and it may also introduce immigrants of all nationalities, excepting Asiatics and negroes. Both the immigrants and the employés and laborers shall be subject to the laws of the Republic and to the regulations of the company. The Government assures them aid and protection and the enjoyment of their rights and guarantees in conformity with the constitution and the national laws during the time that they may remain within Costa Rican territory.

ARTICLE XXXII.

The Government of Costa Rica shall assure the association and its agents, under the laws of the Republic, as it does to the other inhabitants, the full enjoyment of the guarantees and rights which the constitution and laws grant to them. Reciprocally the association and its agents bind themselves strictly to respect the laws and regulations in force in Costa Rica, and especially to comply with the final decisions of the courts, without considering themselves vested with other rights than those granted by law to Costa Rican citizens.

ARTICLE XXXIII.

The Government shall establish all along the line of the canal which may be within the territory of Costa Rica or along its frontier or in the waters appertaining to it in ownership or joint jurisdiction, such police stations and revenue offices as in its judgment may be necessary for the preservation of order in the region of the canal

and for the observance of the fiscal laws of the Republic.

The expenses incident to said services, including those of buildings, salaries, wages, and allowances of the employes and transportation of the forces, and which may be in excess of such as are now borne by the Government for the custom house actually established at the mouth of the San Carlos, or on any other point that may be crossed by the canal, shall be paid to the public treasury by the company on such terms and conditions as may be established hereafter, taking into consideration the requirements and necessities of such services.

The association shall also have the right to establish guards and watchmen for the

service of the canal and the enforcement of its regulations.

ARTICLE XXXIV.

All contracts in regard to the works of the canal that the association may enter into in foreign countries shall be valid and effective, and shall have full force and effect in Costa Rica, provided they do not violate the laws of the Republic.

ARTICLE XXXV.

The association shall be exempt during the period of this concession both in time of peace and in time of war from all kinds of taxes upon the real estate that it may acquire by virtue of this contract and from all kinds of direct taxes, local charges, or any other imposts relating to the property and use of the canal, or of its buildings and the construction and dependencies thereof, all along its extent, including those situated in the ports and maritime establishments on the two oceans.

This franchise is not transferable to the purchasers of the real estate which the asso-

ciation may alienate under this grant.

ARTICLE XXXVI.

The Republic of Costa Rica shall not establish any tonnage, anchorage, pilot, or lighthousedness or any other charges of any kind whatsoever, upon vessels of any class whatever or upon the merchandise, baggage, and passengers which may pass through the canal from one ocean to the other; all such dues are reserved for the benefit of the association as provided for in article 39.

ARTICLE XXXVII.

For the purpose of securing the most ample liberty of transit of persons and property a free zone shall be established on each side of the canal, and the width thereof shall be 90 meters and 288 millimeters, measured from the water's edge in the canal.

All traffic declared illegal by the laws of the Republic shall, however, be prohibited within the said zone and the revenue authorities whose duty it is to watch for and prevent smuggling shall act in conformity with the stipulations of Article XXVIII.

It is expressly agreed that every vessel that may pass through the part of the canal

It is expressly agreed that every vessel that may pass through the part of the canal which way be within the territory of Costa Rica or along its borders or in waters over which it exerts co-jurisdictionshall carry on board an officer appointed by the Government whenever the authorities may deem it convenient, and that officer shall act in conformity with the law should be discover that it is being violated.

The two ports to be constructed for the entrance and exit of the canal on both oceans, which may be wholly or in part within the territory or in waters of Costa Rica, shall be declared free ports and shall be recognized as such from the opening of the

canal to the end of this concession.

The Government, in agreement with the company, shall establish, by means of a special decree, the limits of this franchise, which shall never extend beyond the waters of the ports comprised between the mouth of the canal and the entrance of said

All merchandise that shall be loaded or discharged at any point of the canal within the territory of Costa Rica, and intended for internal commerce, shall pay the import and export duties fixed by the revenue laws of the State.

ARTICLE XXXVIII.

For the proper administration of the canal and its dependencies, and in order to facilitate its construction and operation, the association shall establish the proper regulations, which shall be binding upon every person who may be found in its waters or in its dependencies; the sole reservation being that the rights and sovereignty of the

State be respected.

It is understood that the association, in the exercise of the powers conferred by this article, shall not make other regulations than those necessary for the administration and particular management of the canal; and that, before carrying them into effect, they shall be submitted for the approval of the Government. The State shall lend the aid of its authority to enforce these regulations.

ARTICLE XXXIX.

By way of compensation for the expenses incurred in the surveys, construction, maintenance, and operation of the canal, or any part thereof, during the period of said privilege, the said association shall have the right to establish and collect, for the passage of all kinds of ships, vessels, travelers, and merchandise through the canal and in the waters and ports pertaining to it, such dues of navigation, tonnage, pilotage, towage, storage, lay days, anchorage, light, roadsteads, wharfage, hospital dues, and any other similar charges, in conformity with the tariffs to be established by it in accordance with article 45 of this contract.

These tariffs may be modified by the association at any time, on condition that all modifications that may be introduced in it shall be previously communicated to the Government, which, in case of finding them within the limits established by said article 45, shall cause them to be complied with as if they were regulations enacted

by itself.

The payment of all the tariff dues shall be exacted without any exception or preference, and under identical conditions, from all vessels, whatever be the place they come from or their nationality, with the exception stipulated in the following article.

ARTICLE XL.

In compensation for the privileges and concessions that Costa Rica grants by this contract, it is hereby stipulated that the Republic shall enjoy the special privilege that Costa Rican vessels, navigating under the flag of Costa Rica, shall be entitled to navigate the canal at a reduction of fifty per centum of the general tariff while engaged in the coasting trade, or in the reciprocal trade with the other Republics of Central America.

To enjoy this privilege, the said vessels shall be necessarily of the register of the

Republic, and belong to citizens of the same.

A reduction of fifty per centum of the general tariff is also granted to all vessels that begin their voyage for a foreign country at any of the ports belonging to the

Republic with a cargo wholly consisting of products of the country.

Costa Rican vessels of war and revenue cutters shall pay no dues in passing through the canal. No dues shall be paid by the vessels of the National Register navigating either Costa Rican waters connected with the canal or the canal itself, without passing out of the locks, but said vessels are not in any way to obstruct the free navigation of the canal.

Costa Rica, on its part, shall not object to the enjoyment by Nicaraguan ships of the advantage granted in this article to those of Costa Rica, provided that Nicaragua, on its part, consents that the ships of Costa Rica shall enjoy in Nicaraguan

waters the said privilege.

All the concessions to which this article refers shall be extended to the other Republics of Central America, or any of them, whenever Costa Rica and Nicaragua shall find themselves free from international obligations which may prevent it, or whenever one or more of said Republics shall form a single nation with Costa Rica.

ARTICLE XLI.

In case it may be possible to utilize the waters of the canal and its dependencies for the irrigation of plantations, gardens, and streets, or for the supply of towns that may be without it, or as motive power for private enterprises, the company shall have the power to supply it, collecting dues in proportion to the amount furnished, according to the tariff that it may establish in agreement with the Government.

ARTICLE XLII.

The association shall undertake at its expense the final surveys of the ground and the location of the line of the canal by a commission of competent engineers. The Government of Costa Rica shall have the right of visiting and inspecting the final surveys which are in progress, and those already completed by an engineer appointed by said Government, and whose salary shall be paid by the association, the amount thereof to be fixed hereafter by special agreement between the Government and the company.

A period of two years and a half, to be counted from the date of the ratification of this contract, is granted the association for the final surveys of the canal, and within the said time the association shall have to make the said final surveys, organize the company which is to carry on the work, and begin the work of construction.

The work of construction shall be understood to have commenced if within three years after its inception two millions of dollars have been expended on it.

The period herein provided for shall admit of extension by the Republic at the request of the association and upon grounds of justice, in the judgment of the Government.

ARTICLE XLIII.

A term of ten years is also granted to the association for the construction completion, and opening to traffic the canal for maritime navigation. However, should events of main force arise, duly justified and sufficient to impede the regular progress of the works during the period of the said ten years, an extension shall be granted equal in duration to the time that may have been lost by such delays.

If at the expiration of the ten years aforesaid the works should not be completed

If at the expiration of the ten years aforesaid the works should not be completed so as to have the maritime communication between the two oceans opened, in consideration of the great capital the company may have invested in the enterprise and the good will and ability it may have shown and the difficulties encountered, the Republic binds itself to grant a new extension.

ARTICLE XLIV.

As a guaranty of the fulfillment of the obligations which the final company which is to construct the canal incurs in accordance with article 42, it shall deposit to the order of the Government of Costa Rica, in a bank or in a mercantile house in this city, or with an agent which the Government may designate, immediately after the certificates are issued, one thousand shares of its capital stock of the nominal value of \$100 each. The said one thousand shares of capital stock shall be considered an advance to the Government of the payment of the police and revenue expenses to be made under article 33, and the association shall be credited with the actual value of said shares at the time such payments are made.

ARTICLE XLV.

In consideration of the valuable privileges, franchises, and concessions granted by virtue of this contract to the association, the Republic shall receive in shares, certificates, or other values representing the capital stock of the final company, an amount equal to one and one-half per centum of the total amount of the issue of said capital stock, in shares or certificates of \$100 each. This sum shall in no event be less than \$1,500,000. Said shares shall be considered as fully paid up, and two-thirds thereof shall not be transferable. All these shares shall participate in the benefits, interests, distributions, dividends, amortizations, rights, privileges, and all other advantages granted to paid-up shares, without any difference whatever. These shares, together with the other privileges herein granted by the association to the Government, shall be in full compensation to the Republic for all public unappropriated lands that may be flooded and for all the privileges and concessions conferred by this contract, and shall cover completely all claims of this description on the part of the state against the association or the final company. The shares to which this article refers shall be delivered to the agent appointed by the Government for this purpose as soon as the company may be ready to issue certificates of its capital.

ARTICLE XLVI.

From the earnings of the enterprise the company shall take, in the first place, the necessary amount to cover all the expenses for maintenance, operation, and adminnecessary amount to cover at the expenses for maintenance, operation, and administration; all the sums necessary to secure the interest, which shall not exceed six per centum, and the amortization of the obligations and of the shares, and what remains shall form the net profits, of which at least eighty per centum (80 per cent.) shall be divided among the shareholders, it being understood that after the lapse of ten years after the completion of the canal, the company shall in no case divide among its shareholders in payment of dividends, directly or indirectly, by issue of shares or otherwise, more than fifteen per centum (15 per cent.) annually or in this proportion from the sellected from the aforestial canal, where it shall appear proportion, from dues collected from the aforesaid canal; and where it shall appear that these dues yield a greater profit, they shall be reduced to the fixed limit of fifteen per cent. per annum.

ARTICLE XLVII.

The present concession shall be forfeited:

1st. Through the failure on the part of the Company to comply with any one of the conditions contained in Articles VII, XLII, and XLIII.

2d. If the service of the canal, after it is completed, is interrupted for six months,

unless in case of unforeseen accidents or main force.

When the concession shall have been declared forfeited from whichever of these causes, the public lands granted by virtue of the present contract shall revert to the Republic in whatever condition they may be, and without compensation, such lands as may have been alienated by the Company with the formalities prescribed by law, shall be excepted, provided that such alienations shall not have taken place within the six months preceding the date on which the company may have become legally liable to the penalty herein established.

ARTICLE XLVIII.

At the expiration of the ninety-nine years stipulated in this concession, or in the event of the forfeiture expressed in the preceding article, the Republic shall enter into the possession in perpetuity of that part of the canal, its warehouses, stations and other establishments used for the management thereof that may be found within the national territory. Such works as may be found in waters in which the Republic has join: sovereignty shall belong to her in joint ownership. And in regard to such parts of the canal or of the waters thereof in which Costa Rica has not the eminent domain, but simply the right of use and free navigation, the Republic, at the expiration of the ninety-nine years, or in the cases of forfeiture above named, shall retain in perpetuity the said rights of use and free navigation. The Republic shall not be obliged to pay to the company any compensation for the same.

There shall be excepted from this condition the vessels belonging to the company, its stores of coal and other materials, its mechanical workshops, its floating capital and reserve fund, and at the expiration of the said ninety-nine years also the lands ceded to it by the state under the present contract, excepting those in which the works indicated in the first part of this article may be found established, which will become the property of the state, with their immediate dependencies as necessary

for the service of the canal and an integral part of the same.

But the company shall have the right, at the expiration of the aforesaid term of ninety-nine years, to the full enjoyment and a free use and control of the canal and such parts thereof as may be within the territory of Costa Rica, with all the privileges and advantages granted by this concession in the capacity of lessee for a second period of ninety nine years, upon payment to the Government of Costa Rica of six and one-quarter per centum of the annual net profits of the enterprise, besides the dividends due to it for its share in the capital stock.

The company shall have the right to fix at its discretion the dues referred to in article 39 of this concession, so that the shareholders, after the payment of 314 per cent is deducted, shall still receive dividends of ten per cent per annum on the whole

capital.

At the expiration of this second period of ninety-nine years the Government shall enter into perpetual possession of the canal and the other property referred to in the first part of this article; and this delivery shall also embrace everything excluded in the said first part, except the lands ceded to the association by this contract and the

reserve and sinking fund.

The failure to comply with any of the conditions of the lease shall terminate it, and the state shall enter into the possession of the part of the canal which corresponds to it, owing to it being situated in Costa Rican territory or in the places in which Costa Rica is joint owner, and also of the other works which belong to the canal, in accordance with the provisions of the preceding paragraph.

ARTICLE XLIX.

Any misunderstanding that may arise between the Republic and the company in regard to the interpretation of the present stipulations shall be submitted to a court of arbitrators, composed of four members, two of whom shall be appointed by the state and two by the company.

These arbitrators shall be designated by each party within the period of four mouths from the day on which one of them shall give notice to the other in writing of the want of agreement on the point at issue. Should one of the parties allow this period to lapse it shall be considered as assenting to the opinion or claim of the

other.

The majority of the votes of the arbitrators shall finally decide without recourse. In case of a tie vote the arbitrators shall appoint, by mutual consent, a fifth person, who shall decide, and in case of their default the respective parties will appoint him. If they cannot agree to such appointment they shall draw by lot the names of the diplomatic representatives accredited to Costa Rica, and the first one drawn out shall exercise the functions of the fifth arbitrator. He shall concur on one of the two opinious, and what may be so decided shall be final and without recourse of any kind. If the fifth arbitrator should fail, the second person drawn shall exercise these functions, and so on successively until the decision is reached.

Prior to the initiation of the works of opening the canal the Government, in concurrence with the company, shall formulate a set of rules to be observed by the arbi-

trators in all matters relating to procedure.

All questions between the association and private parties residing in Costa Rica shall be determined by the ordinary courts of Costa Rica in conformity with the legislation of the Republic. In matters pertaining to parties not residing in Costa Rica the rules of private international law shall be observed.

ARTICLE L.

This contract, after being approved by the Hon. General President of the Republic, shall be submitted to the supreme legislative power for the purpose that if they deem it convenient they should impart to it the necessary ratification, and in case such approval is not obtained, the Nicaragua Canal Association will be released from all the obligations to which it is bound by it. Such ratification or non-ratification shall be made within one hundred and twenty days from this date.

In witness whereof the undersigned have set their hands to four copies of the pres-

ent contract, two for each party, in San José de Costa Rica, 31st July, 1888.

PEDRO PEREZ ZELEDÓN. A. G. MENOCAL.

PALACE OF THE PRESIDENT, San José, July 31, 1888.

In consideration that the foregoing contract agrees with the instructions given for its celebration to the honorable secretary of state, who authorizes it, it is hereby approved in all its parts for the purpose that it may be submitted to the deliberation of the Constitutional Congress.

Countersigned by his honor the President of the Republic.

PEREZ ZELEDÓN.

ARTICLE 2.—The contract to which the foregoing article refers is hereby exempted from the payment of stamp duties.

To the executive power:

Given in the hall of sessions of the national palace in San José, on the 9th day of August, 1888.

> A. ESQUIVEL, President.

MANUEL J. JIMÉNEZ, Secretary. FÉLIX GONZÁLEZ,

Vice Secretary.

PRESIDENTIAL PALACE. San José August 9, 1888.

Therefore be it executed.

BERNARDO SOTO.

The secretary of state of the department of public works:

MAXIMO FERNANDEZ.

APPENDIX L.

REPORT ON THE TONNAGE OF TRAFFIC WITHIN THE ZONE OF ATTRACTION OF THE MARITIME CANAL OF NICARAGUA, IN 1890, AND AS ESTIMATED FOR 1897.

[By Thos. B. Atkins, Secretary and Treasurer of the Maritime Canal Company of Nicaragua.]

THE MARITIME CANAL OF NICARAGUA.

REPORT ON THE TONNAGE OF TRAFFIC.

The question of the amount of traffic which will be attracted to any interoceanic canal across the American Isthmus is one concerning which there has been, and probably will continue to be, a wide difference of opinion.

The problem is unquestionably an intricate one. It is difficult to determine the relative value of the factors of which it is composed; and it is made more complex

by the elements of futurity which enters into it.

The most serious attempt at its solution was made for the information of the International Congress, which assembled at Paris in 1879 to consider the various projects at that time before the public for an interoceanic canal across the Isthmus and the questions pertinent thereto. The question was then made the subject of careful investigation and study by a statistical commission composed of eminent scientists, statisticians and officials, of which M. Levasseur, member of the "Institute National" of France, was chairman.

In the report at the time presented by M. Levasseur it was estimated upon "Lev." premises set forth at some length, and which further on shall have more particular consideration, that the tonnage of traffic existing in 1876, within the zone of attraction of such a canal, upon the basis of an estimated average value per ton, was 5,268,000 tons.

Upon a statistical basis, partly furnished by Rear-Admiral Ammen, U.S. Navy, and Mr. Eli Lazard, of San Francisco, it was also estimated at 4,833,000 tons.

Both estimates being duly considered, 5,250,000 tons was finally accepted by the commission as a "very moderate" estimate of the tonnage existing in 1878 within the zone of attraction.

In arriving at this conclusion the commission justly remarked: "Whatever may be the latitude at which the American Isthmus may be pierced between Lake Nicaragua and the Atrato, under whatever technical conditions the canal may be constructed, the commerce of the two oceans, considered as a whole will profit equally by it."

From these results thus arrived at it was argued in the report that the natural growth of commerce would, in ten years' time, say by 1888, increase the total of tributary tonnage from the 5,250,000 tons, recognized as existing in 1878, to 7,250,000 tons, from which the canal, at the time of its expected completion, would be able to

draw for its revenue.

At the time when the report was prepared and submitted the statistics of international commerce were neither as abundant nor as accessible as they are at the present time; even now they are not by any means as complete as is desirable for an exact examination of the question. South American returns of tonnage are particularly misleading; oftentimes the same vessel is registered in more than one port of the same country, and thus is made to count twice or more times in the tonnage reports of registered entries and clearances. The only traffic data of those countries of reliability, are the values of exports and imports, which, from the channel through which they are collected-customs returns-are not apt, at all events, to be exaggerated

In making a new estimate it is, therefore, not only expedient but almost imperative to follow the method adopted by M. Levasseur and his eminent associates in their work, and in doing so it is somewhat remarkable how fully the growth of commerce has verified their anticipations. This estimate of a time so long passed is chiefly valuable for comparison as indicating what growth of commerce may be anticipated in the lapse of time required for construction of the Nicaragua Canal, and it is of some importance in that respect to ascertain as nearly as possible the correctness of the premises with which comparison is to be made.

Accepting the report of the commission as a fair estimate of tributary commerce

existing in 1878, we have 5,250,000 tons as a basis for comparison.

In an estimate furnished the United States Treasury Department in 1880 it is claimed that the meridian of 110° east from Greenwich will be the dividing line beyond which the attraction of the canal will cease to be influential. We are not prepared to admit this, for the reason that ocean currents and prevailing winds and more favorable climate will at least influence much of the trade of Europe to circumnavigate the globe by way of the Nicaragua Canal, when it is opened, as a return route rather than to use the Suez Canal both going and returning; and thus the attraction of the canal will be felt to a greater or less extent even by the enormous trade of Europe, or, more exactly speaking, of England with India. This principle seems to have been accepted by the statistical commission. Adopting for the purpose of an estimate the dividing line suggested, the meridian of 110° east from Greenwich, the commerce of the world which would have been directly subject to the attraction of the canal in 1888, had it then existed, is largely shown in the following table, carefully compiled from official returns.

table, carefully compiled from official returns.

It is proper to premise (1) That, as previously stated, the most reliable statistics of commerce are given in values and not in bulk or weight; where it is otherwise, the fact is noted. (2) That wherever local statistics are accessible they are accepted as the more reliable; in other cases the figures of the British Board of Trade are accepted. (3) That as returns are made in different currencies they are roundly converted into dollars at \$5 for the pound sterling, 20 cents for francs, 40 cents for guilders, 75 cents for pescos, \$1.15 for Haikwan taels, 25 cents for marks, \$1 for the yen of account, 20 cents for pesetas. These figures do not vary materially from actual values, and are very much more convenient for computation. (4) In the instance where returns are made in bulk they are reduced to tons at the round allowance of 1,000 grams to the ton.

TABLE OF COMMERCE SUBJECT TO THE ATTRACTION OF THE CANAL.

(To be divided into three classes: Class 1, entirely tributary; class 2, largely tributary; class 3, partially tributary.]

Commerce of the places named, exports and imports.

Reference. Class		Countries.	Amount.
		With Great Britain:	
Y. B., 111	2	Hong-Kong, 114° east from Greenwich	\$20, 508, 00
Y. B., 235	2	New South Wales	83, 932, 80
Y. B., 261	2	Queensland	23, 655, 48
Y. B., 268	2	South Australia	24, 998, 48
Y. B., 286	2 2	Victoria	73, 600, 35
Y. B., 292	2	Western Australia	3, 380, 85
Y. B., 253	2	New Zealand	44, 564, 00
Y. B., 275	2	Tasmania	3, 608, 01
Y. B., 776	8	Java	22, 358, 76
Y. B., 944	2	Philippine Islands	14, 394, 69
Y. B., 416	2	China	54, 157, 65
Y. B., 715	2	Japan	87, 403, 58
Y. B., 452	1	Ecuador	2, 489, 91
Y. B., 809	1	Peru	15, 245, 87
Y. B., 387	1	Bolivia	1, 267, 83
Y. B., 406	2	Chili	62, 437, 16
Y. B., 78	2	Central America	10, 412, 25
TF 70 04.0		With France:	
Y. B., 515	2	New Caledonia	1, 565, 81
Y. B., 715	2	Japan	17, 761, 44
Y. B., 406	2	Chili	7, 857, 43
Y. B., 546		With Germany:	0 100 00
Y. B., 715	2 2	Anstralia	8, 129, 00
Y. B., 406	2	Japan	6, 878, 46
Y. B., 577	2	Chili Hamburg with Australia	14, 098, 98
Y. B., 416	8	China with Germany, France, etc.	(4)
Y. B., 944	8	Spain with Dhilipping Islands	18, 283, 31
Y. B., 379	1	Spain with Philippine Islands Belgium with Peru	4, 123, 00
Y. B., 762	B	Netherlands with Dutch East Indies.	6, 440, 99
21 201 100		With United States (Atlantic ports, chiefly New York;	66, 080, 00
		Pacific ports, chiefly San Francisco):	
& N., 40	2	British East Indies, Atlantic ports	22, 765, 82
& N., 40		British East Indies, Pacific ports	1, 432, 04
& N., 89.	2	French East Indies, Atlantic ports	319, 42
& N., 40	2	Dutch East Indies, Atlantic ports	7, 042, 41
& N., 40	ī	Hong-Kong, Atlantic ports	2, 113, 02
& N., 41	8	Hong Kong, Pacific ports	3, 050, 55
& N. 39	1	China, Atlantic ports	12, 484, 83
& N. 89	8	China, Pacific ports	6, 932, 94
& N., 42.	1	Japan, Atlantic ports	10, 038, 67
& N., 43	3	Japan, Pacific ports	9, 380, 33
& N., 40	1	British Australia, Atlantic ports.	13, 279, 82
& N. 41.	8	British Australia, Pacific ports	5, 040, 31
& N. 42	1	Philippine Islands, Atlantic ports	8,719, 00

Commerce of places named, exports and imports-Continued.

Reference.	Class.	Countries.	Amount.
C. & N., 43 C. & N., 42 C. & N., 42 C. & N., 32 C. & N., 34 C. & N., 36 G. & N., 22 and 24 C. & N., 5 C. & N., 7 C. & N., 7 C. & N., 7 C. & N., 6-10 C. & N., 30 C. & N., 30	3131112	With United States (Atlantic ports, chiefly New York; Pacific ports, chiefly San Francisco)—Continued. Philippine Islands, Pacific ports Hawaii, Atlantic ports Hawaii, Pacific ports Chili Ecuador Peru Central America (Nicaragua, Costa Rica, and Salvador) Pacific ports of the United States with— Belgium France Germany Great Britain Cuba Brazil Total	\$2. 053, 66(197, 611 16, 025, 78(4, 814, 62; 1, 331, 37(5, 170, 98(837, 844 5, 632, 35; 1, 136, 50(33, 944, 47(55, 11) 166, 01;

^{*} Value, not reported; weight, 65,300,000 kilos, say about 65,300 tons.

In the table the trade of Asia, etc., with interior ports of entry of the United States, which is chiefly transshipped at San Francisco, is omitted because C. & N., 45. it is almost entirely in high-priced commodities which yields only a low It amounts to \$2,305,138.

To this large aggregate there should be added the commerce of the Atlantic and Pacific coasts of the American continent, each with the other, and any other trade of the Pacific coast not already included. Some portion of the trade referred to now finds its way around Cape Horn, a part goes by the way of the Panama Railroad across the Isthmus, and a considerable portion of it helps to make up the tonnage of the Pacific railroads. A large part of the Pacific railroad portion is included in the items of commerce between China, Japan and Australia, and the United States,

particularly that part of such commerce as is entered via San Francisco. In addition to this there is a large traffic between our Atlantic and Pacific seaboard already established and likely to increase with such strides as is known to trade and commerce in the Western hemisphere only as soon as an advantageous waterway is offered for its transportation. It is now limited by the high cost of railroad transportation or the length of the ocean voyage. The rate for transportation between New York and San Francisco by rail in carload lots is not less than \$20 per ton on low class freight and much higher on general merchandise. By sailing vessels freights are rarely over \$10, and more often \$8 or \$9. The difference in time of transit by existing routes is that between one hundred and twenty days for a

voyage around Cape Horn and fifteen to eighteen days for fast freight by rail across the continent.

From Hong-Kong to New York, around the Cape, is about one hundred and sixtyfive to one hundred and seventy days by sailing vessel; by steamer across the Pacific and rail across the continent it is thirty-eight to forty days; by the canal route it would be one hundred days by sail and thirty-eight to forty days by steamer. Under certain conditions commerce pays the difference in cost to save the difference in time between the quicker and the slower route, for by so doing capital is turned over and made to yield its profit more frequently, the risks of unforeseen contingencies are reduced to a minimum, and the accidents which bring disaster to the merchant are, to an equal extent, avoided. High-priced commodities, such as come to us from Asia and the islands of the Pacific, will bear the additional charge in consideration of the saving of time, but lumber and other low-priced material can not. Recently the bark W. W. Crapo brought from Port Townsend, Wash., a cargo of shingles and spars to Boston, Mass. The Crapo is a 1,650-ton bark, and could be run at a cost of, say, \$75" per day, not including port charges. She occupied one hundred and twenty-eight days in her voyage and sailed 16,200 miles. By the Nicaragua route the distance from Port Townsend to Boston is about 5,600 miles and the saving about 10,600 miles, nearly 76 per cent., or, say, more than eighty-three days of her passage, which would amount to a saving in actual expense of \$6,225, without regard to the advantage to both shipowner and lumber merchant in their economies of time, insurance, and use of capital, which upon her cargo could not have been less than \$40 per day, or an aggregate of \$3,300 more.

^{*75} per day for costs includes interest upon cost of vessel, insurance, depreciation of value, repairs, wages, and provisioning.

Under such advantages as the canal would offer an enormous coastwise commerce in coal, provisions, lumber, and the various commodities of commerce, the traffic in which is largely dependent upon advantageous transportation, would of necessity be developed, the magnitude of which it is impossible to estimate. The same reasons will operate to divert to the canal a very considerable portion of the trans-continental traffic from China, Japan, Australia, and the Sandwich islands, which has been diverted originally from the Cape Horn route, and now constitutes a large part of the tonnage of the Panama or Pacific railroads. It is in this view of the matter that we have included in the table of commerce the traffic between these countries and the port of San Francisco as tributary in a degree to the canal.

port of San Francisco as tributary in a degree to the canal.

There should also be added to the table a proper estimate of the proportion of the commerce between Great Britain and her East Indian colonies which will seek the Nicaragua Canal as a return route in perference to the Suez Canal, because of favoring winds and currents, more favorable temperature, and other reasons which the

merchant will be quick to discover.

The first item mentioned, existing traffic between the Atlantic and Pacific coasts of the continent not otherwise included, has been estimated at figures varying from 265,531 tons in 1887 to 275,000 tons in 1888, distributed as follows:

Between Atlantic and Pacific ports of United States, around Cape Horn British Columbia with Europe, around Cape Horn To which add similar tonnage by the Isthmus of Panama, estimated at	Tons. 145, 713 69, 818 50, 000
Estimate of 1887 E. P., 3-24-88. By Panama Potygon Atlantic and Pagific years of United States, ground Care House	265, 531 75, 000
Between Atlantic and Pacific ports of United States, around Cape Horn British Columbia with Canada, around Cape Horn	185, 000 15, 000
	975 000

In this last estimate the trade of British Columbia with Europe is entirely omitted as apparently of no value; we may, however, assume that it was not less in 1888 and 1889 than in 1887, say 70,000 tons, and we may safely accept less than the mean of the two years, this included, as a just estimate of the annual amount, say, in

round numbers, 275,000 tons.

As we have already included in the table of tributary traffic the commerce of Asia and the Pacific Islands with San Francisco, we make no separate estimate of the proportion of it which ought to be attracted to the canal, but in the distribution of the total consider it as among the probably tributary business. It is admitted without question that a considerable portion of this trade is directly with the inhabitants of the Pacific coast and for local consumption, but a certain proportion of it is transshipped by rail across the continent for consumption or distribution at points not ports of entry and where it can not be shipped "in bond.' This portion of the trade would, because of the comparative cheapness of water transportation, be attracted by the canal, for the difference in time of transit by the canal and that of entry at the Pacific port, reshipment, and of freight transportation by rail across the continent would not be sufficient to warrant the additional cost of overland transportation; indeed, it would probably consume quite as much if not more time than the route by the canal. The time from Hong-Kong to New Orleans by steamer through the canal would be less than via San Francisco by steamer and rail from thence to New Orleans.

The value of the return commerce between Great Britain and her East Indian colonies remains to be considered. It is possible that the export trade from Great Britain to the East Indies will always seek the route by the Suez Canal, but there are reasons in the favoring winds and currents and more temperate climate to traverse, which make it exceedingly probable that the return voyage may be made more speedily and therefore less expensively, and at the same time more comfortably, by the Nicaragua Canal than by the route used for out-bound trade. It is not impossible, however, that the northeast trades which carried Columbus so successfully to Porte Rico may sufficiently favor the out-bound voyage to attract even some portion of that trade, but there is no room to doubt that the canal will exert an attraction on that which is homeward bound. Moreover, not an inconsiderable part of the material of this traffic, such as plumbage from Ceylon and straw braid from China is immediately transshipped from London to New York for consumption in this country. What part of the export trade will seek the Nicaragua route may be disputed, but of that which now moves to Great Britain from that portion of the world the canal may with reason expect a fair share. The total of these imports into Great Britain from her East Indian possessions amounts to nearly \$200,000,000 per annum.

To recapitulate. The amount of traffic, thus indicated, which would be attracted
to a greater or less degree, by the Nicaragua Canal to day, if it were open to busi-
ness, is briefly:
The aggregage of the table
The return trade from India and the Straits Settlements to Great
Britain
Total value
Add to this value the trade of Hamburg with Australia reported in

"Lev." In the estimate of the Statistical Commission of 1879 it was calculated that 1,000,000 tons of the aggregate of commerce to be regarded as tributary to the canal consisted of flour, guano, and other low-priced commodities, which should be valued at 200 francs, or, say, \$40 per ton. The remainder was valued at 375 francs, or \$75 per ton, and the result was the estimate, after liberal allowance made, of 5,250,000 tons already cited.

When the low values of the commodities which constitute the great bulk of material transported are considered, it may well be questioned whether this valuation was not too high, and the allowance for low-priced commodities too small. As cor-

roborating this opinion the following approximate values are submitted:

	Per ton
Coal is worth, say	. \$3,00
Crude oil is worth, say	. 16,00
Refined oil is worth, say.	
Sugar is worth, say	
Flour is worth, say	
Wheat is worth, say	
Corn is worth, say	
Guano is worth, say	
Nitrates are worth, say	
, , ,	

S. F. J. C., 90 S. Y. B., 405 S. Y. B., 405 S. Y. B., 405 S. Y. B., 809	760, 000 40, 000 150, 000 14, 000 1,773, 135

The statistics of Chili, Peru, and Bolivia for 1889 are not yet accessible, but the

business was larger than for 1888.

Of this total over 2,650,000 tons was of nitrates, 1,897,000 tons of which was cubic nitre, worth only about \$3 per ton at place of shipment and valuation. Coal and coal oils, crude and refined, enter largely into outbound freights, and, being also articles of low valuation, must materially affect the general average of values. That this tonnage, as well as its return freight, or rather the outbound freight of which it is the return, would be almost entirely tributary to the canal, is evident from the fact that

the canal will cut out from the voyage, as between San Francisco, Callao, Appendix A. Valparaiso, and Liverpool, in the first case, 6,996 miles; in the second, 4,690 miles, and in the third case, 2,144 miles, including the stormy, dangerous, and destructive* passage around Cape Horn. The difference from Valparaiso, the principal port of Chili, may not be sufficient to counterbalance the charges of the canal, but from Callao and ports north of it there can be no question as to the advantage to be gained by its use.

^{*} Destructive in its wear and tear upon vessel and rigging.

Following the method of the statistical commission, which, so far, is the best that has been suggested, and modifying it only to pay regard to ascertained facts, we may deduct from the aggregate of the table the following items as not open to estimate, their value and quantity both being already determined:

Reference.		Tons.	Value.
	Wheat and flour from South American ports (page 10) Guano (page 10) Nitrates (page 10)	150, 000 54, 000 2, 657, 135	\$3, 411, 532 1, 762, 389 30, 013, 199
S. F. J. C., 90	Wheat and flour from San Francisco (page 10)	2, 861, 135 692, 500	35, 187, 120 21, 527, 725
	Total	8, 553, 685	56, 714, 845

We have remaining a valuation of \$768,395,322 as the balance of the table on page

6 for which to determine a tonnage equivalent.

For this purpose we have much information that is of importance in relation to averages of value. The total foreign commerce of the United States for year ending June 30, 1889, is reported as follows (merchandise only):

References	Entered and cleared.	Tons.	Imports and exports.	Value.
C. & N., 810 C. & N., 812	Entered, cargo only	12, 913, 400 14, 263, 430 27, 176, 830	Imports	\$745, 181, 652 742, 401, 375 1, 487, 533, 027

Average value, \$54.74 per ton.

Complete statistics for Great Britain, France, and Germany are as yet accessible only for the year 1888. In that year the commerce of Great Britain with other countries is reported as follows:

References.	Entered and cleared.	Tons.
S. Y. B., 85. S. Y. B., 85.	Entered, cargo only	27, 077, 000 31, 664, 000
	Total	58, 741, 000
References.	Imports and exports.	Value.
S. Y. B., 79 S. Y. B., 79	ImportsExports	\$386, 582, 026 298, 047, 374
	Total	684, 629, 400

Average value, £11 13s. 2d. =\$58.28.

Of France the commerce is reported as follows (foreign trade by sea):

References.	Entered and cleared.	Tons.
S. Y. B., 488 S. Y. B., 488	Entered, cargo only	13, 5 37, 734 9 , 354, 225
	Total	22, 891, 959
References.	Imports and exports.	Value.
S. Y. B., 486 S. Y. B., 486	Imports	Francs. 2, 829, 000, 000 2, 955, 000, 000
	Total	6, 584, 000, 000

8. Y. B., 549. Of Germany the only statistics which are in a form available for use are those of the port of Hamburg, which is the principal port of entry of the German Empire. Out of a total tonnage of 17,489,235 tons entered and cleared at the seven principal ports of Germany in the year 1888, Hamburg is credited with 8,846,117 tons, being over 50 per cent. of the whole. For some reason not stated no return is made of the value of exports, but the value of imports at that port is given as follows:

Average value, 291 marks=\$72.75.

We have, then-

Countries.	Tons.	Per ton.
Great Britain France Germany, Hamburg (imports only) United States.	58, 741, 000 22, 891, 959 3, 823, 786 27, 176, 830	\$58. 28 57. 60 72. 75 54. 74
TotalAverage	112, 633, 575	54.77

Statistics of the commerce of the British Colonies in Australia and New Zealand may be regarded as free from exaggeration of the repeated entries and clearances, before mentioned, as vitiating returns of tonnage on the Pacific coast. From them we gather the following data:

Commerce of New Zealand in 1888.

References.	Entered and cleared.	Tons.
S. Y. B., 254 S. Y. B., 254	Entered, cargoes	456, 237 524, 874 981, 111
References.	Imports and exports.	Value.
S. Y. B., 252 S. Y. B., 252	Imports, exclusive of specie and gold	£5, 430, 050 6, 487, 897 11, 917, 947

Average value, £12 3s. =\$60.75.

The commerce of Queensland, Australia, in 1888 was:

References.	Entered and cleared.	Tons.
S. Y. B., 262 S. Y. B., 262	Entered	478, 517 517, 712 996, 229
References.	Imports and exports.	Value.
S. Y. B., 261 S. Y. B., 261	Imports and exports. Imports	26, 646, 738 6, 126, 362

The commerce of Victoria in 1888 was:

References.	Entered and cleared.	Tons.
S. Y. B., 286 S. Y. B., 286	Entered	2, 182, 071 1, 125, 812
	Total	3, 307, 883
References.	Imports and exports.	Value.
S. Y. B., 284 S. Y. B., 284	ImportsExports	£23, 972, 134 13, 853, 763

Average value, £11 8s. 6d. =\$57.10.

The commerce of New South Wales in 1888 was:

References.	Entered and cleared.	Tons.
S. Y. B., 237 S. Y. B., 237	Entered	2, 414, 750 2, 350, 669
,	Total	4, 765, 419
References.	Imports and exports.	Value.
S. Y. B., 235 S. Y. B., 235	Imports	£20, 885, 557 20, 859, 715
	Total	41, 745, 272

Average value, 28 15s. 5d. =\$43.85.

In the returns of the Australian colonies the tonnage of vessels arriving and clearing in ballast and of specie and bullion exported and imported are not separated from the general aggregates, and make the average of tonnage valuation obtained from them less useful than those obtained from the commerce of the four great nations; but the including of specie and bullion in export values overbalances the including of vessels entered and cleared in ballast, and the tendency is to make an increased average value. This is demonstrated by the returns of New Zealand as compared with those of Victoria and New South Wales. They serve, then, notwithstanding their defects, to corroborate the other estimates in a general way, although they are not of specific value in themselves.

The commerce of New Zealand, of which the statistics are properly divided, showing the tonnage of cargoes entered and cleared and the values of imports and exports, exclusive of specie, bullion, and gold and silver, shows an average value of \$60.75 per ton. It embraces in its aggregate all the commedities, in similar proportions, which go to make up the commerce of other Australian countries, and its average,

therefore, is of direct value.

Deducting from the total tonnage and the total value of the commerce of Europe, which amounts to \$5,456,745 tons, at a valuation of \$5,018,674,000, the total tonnage and value of the nitrates, wheat, etc.—say 3,553,635 tons, valued at \$56,714,845—which goes almost entirely to Europe, and which has been deducted similarly from the table of values, the average value per ton of the remainder is \$60.59.

From these data, which approximate each other so closely, we may safely assume \$61 to be a full valuation for determining the equivalent tonnage of the \$768,395,322, remainder of the table of tributary commerce. We have then the following results:

Tons.

Equivalent of \$768,395,322, \$61 per ton, average value	12, 596, 644
Tonnage of Hamburg with Australia, not appraised in table	65, 300
Tonnage of nitrates, etc., South America	2, 861, 135
Tonnage of wheat and flour, San Francisco	692, 500
Tonnage between Atlantic and Pacific coasts, United States of America	
and British Columbia, etc	275,000

Total 16, 490, 579

To this must be added an estimate of the export tonnage from Asia to Great Britain. As many commodities of high value, such as teas, silks, and spices, enter more largely into this trade, in order to convert its value, we may properly advance the tonnage equivalent. One hundred dollars per ton will be sufficient valuation.

The exports to Great Britain for the year 1888 from the following countries were

as below:

References.	From-	Value.	Equivalent in United States money.
S. Y. B., 139 S. Y. B., 104 S. Y. B., 158	IndiaCoylon Straits settlements	£30, 763, 677 2, 532, 999	\$153, 818, 335 12, 664, 995 29, 200, 349
	Total	•••••	195, 683, 679
Equal, at \$100 per To which add to Add for increase	er ton, to	dc	16, 490, 579

We have thus 18,785,350 tons as the aggregate of the enormous traffic which exists to-day, to a greater or less degree, within the zone of attraction of the proposed canal. We have now to consider in what varying measure and to what extent this traffic will be attracted.

It will not be questioned that the trade of the Pacific coast, at least from Callao north, with the United States and with Europe will seek the canal as its most advantageous route, provided charges for its use are not prohibitory. The difference in distance between Callao and Liverpool or Plymouth by ordinary sailing route and Appendix A. by the line of the Nicaragna Canal is 4,090 nautical miles. Allowing 110 miles per day as the average capacity of a sailing vessel of 2,000 tons register, and double that, or 220 miles per day, for a freight steamer of like capacity, this saving of distance is equivalent to a saving of thirty-seven days' time for a sailing vessel, or eighteen and a half days for a steamer.

As the increased capacity and speed of the steamship is proportionately counter-balanced by increased original cost and increased expense of operation, perhaps a full illustration of one class of vessel will be sufficient to warrant an arbitrary state-

ment of premises concerning both.

A sailing vessel of 2,000 tons register will cost for construction, equipment, etc., about \$60 per ton, say \$120,000.

Twenty-four per cent, per annum is the usual allowance of cost for the following

·	Per cent
For interest on cost	
Insurance	
Annual depreciation, etc	10
	24
C1	

Charge for these items, instead of 24 per cent., say 20 per cent = \$24,000 per annum, or \$66.40 per day.

For wages and subsistence the cost will be about \$1,000 per month, or, say \$33.33 per day. Total, say \$100 per day.

But such a vessel on a long voyage will lie from thirty to sixty days in port load-

ing and discharging cargo, and this time is equally chargeable to the voyage. Allow-

ing, then, one hundred and twenty days as sailing time between New York or Li	
pool and San Francisco by way of Cape Horn, and forty days in port (less than	
average) we have one hundred and sixty days for the voyage at a cost of \$100	per
day	000
	000
Total aget gove	000

Freights pay from \$7 to \$10 per ton, according to market; assuming \$8 as a low rate, a 2,000 ton vessel will earn on her cargo of about 3,000 tons,

Say	\$24,000
Deduct expenses	20,000

Profit, at low estimate, per voyage.... 4,000 The following is an estimate of the saving which would be made by the use of the canal between the ports of San Francisco and Liverpool:

Distance from Liverpool to San Francisco, by Cape Horn Appendix A. Distance from Liverpool to San Francisco, by Nicaragua route.	Miles. . 14,690 . 7,694
Distance saved.	

Equal to, at 110 miles per day, more than sixty-three days; that is to say, sixty-three one-hundred and sixtieths of the expenses of the voyage may be saved, or about \$6,300, to which must be added an equal proportion of the profits of the voyage because of the increased voyaging capacity through lessened distance, say \$1,580, showing \$7,880 as the immediate advantage to the shipowner alone of the use of the canal between San Francisco and Liverpool; at higher freight rates the advantage would be proportionately increased—but there are other advantages which can not be so easily computed, yet which will be of great weight in turning the current of trade into this new channel. The increased safety of the voyage and reduced rates of insurance to both shipowner and merchant, and with the merchant, the ability to turn his capital so much more frequently, are arguments of the weightiest importance, which can not be measured by dollars and cents in anticipation, except theoretically, yet added to the facts before stated which are ascertainable, they serve to multiply the evident advantages of the canal route.

There can be no question as to the advantage of the canal to Northern ports; there may be some as to how far south it may be considered preferable to the route around Cape Horn. We do not doubt but that its influence will be felt much farther than is demonstrable, but it is better not to claim too much, for that which can clearly be claimed is abundantly sufficient to satisfy the most exacting inquirer.

We ask attention to the following facts concerning the nitrate trade:

Cubic nitre is worth at place of production, say from \$3 to \$3.23 per ton, a low-priced commodity, and fleights by sailing vessels are about 32s. 6d. to 40s., say \$8 to \$10. In 1888, Peru shipped to Great Britain 1,773,135 tons from the different ports along the coast from Callao to Iquique.

tons from the different ports along the coast from Callao to Iquid	que.
Appendix A. The distance from Callao to Liverpool, by Cape Horn, is By Nicaragua Canal route it is	Miles. 10, 539 6, 449
Distance saved	4,099
Time saved at 110 miles per day, thirty-seven days out of a voyage of, sailing days	Days. 96
In port	136
Estimating expenses as before, at \$100 per day—	
They amount to Port charges, say	\$13,600 4,000
Total	17,600 24,000
Profits of voyage	6, 400
We have the following as the advantage by use of the canal route:	
37-136 of expenses saved	\$3,700 1,800
Gain	5,500

Allowing a charge of \$2.50 per registered ton as the canal toll, it would pay the shipowner at least \$500 to use the canal coming from a port as far south as Callao. To vessels from ports within that limit, and to vessels of less tonnage, the ratio of advantage would be proportionately greater. The advantage to the shipper may be computed as follows: Allowing such a ship's cargo (2,000 tons register) to be worth \$150,000, that is to say, at the rate of \$50 per ton for the cargo carried, which is much below the average, the saving in interest, at 6 per cent per annum, and insurance at 4 per cent per annum, for the thirty-seven days, would be over \$1,500, to be added to the \$500 advantage to the shipowner. On a cargo valued only at \$50,000, which would necessarily be made up very largely of nirate at a low valuation, the saving would be \$500 to the shipper, the advantage to the shipowner being the same in either case.

In view of these facts, we may regard the trade of Peru and of the Pacific coast of the American continent north from Callao as entirely tributary to the canal.

South of Callao it will become gradually less so until canal tariffs overbalance its benefits, but exactly at what point the division will take place only experience can

determine.

It does not seem that further illustrations are necessary; the same methods may be applied to any and every case in which it may be desired to test the advantages of the canal; but investigation shows that where the saving in distance approaches 2,800 miles for a 2,000-ton vessel with a cargo worth \$150,000 or over, there will be an advantage to the shipowner and the shipper conjointly, in the use of the canal at a toll of \$2.50 per registered ton. To decrease the rate would extend its influence still farther and increase the tributary tonnage in more than a proportionate rate, for the added zone of attraction would be on the outside of an already widely extended circle, stretching out into rich and densely populated territory in Asia. Even at \$2.50 per ton it is not impossible that the difficulties of the passage around Cape Horn and advantages of insurance, etc., may bring the trade of Valparaiso as well as of Callao within the zone of strong attraction; we have, however, preferred to treat it, so far as Europe is concerned, as belonging to a class likely to contribute to the canal not more than one-fourth of its volume.

If it be asked: How shall the shipper and the merchant avail himself, each of his representative share, of the advantage to accrue? The answer is: As they have

done in the past.

A quarter of a century ago the merchant bought his teas in Hong-Kong or elsewhere, insured and shipped them home; each transaction was the subject of a separate negotiation. To-day he buys them at what is known in New York as a C. F. and I. price, that is to say, Cost, Freight, and Insurance included. The shipper profits by any reduction in insurance or freight which he may be able to obtain, and adjusts his price with reference to it and to promptness of delivery. On the other hand, the buyer suffers no risk of change in freight rates nor any of the embarrasments and costs of rehandling at any intermediate point. This new method of purchase and sale has grown up entirely in connection with the requirements of transcontinental traffic. In like manner trade will provide a satisfactory method to profit by any advantage properly belonging to herself in connection with the canal, probably by a C. T. and I. price, that is to say, Cost, Tolls, and Insurance included; or, if not in that way, then by some more suitable method.

It will aid in arriving at a proper distribution of the traffic if we divide it into

three classes, considering the facts just illustrated.

First class: That which will be entirely tributary to the canal;

Second class: That which will be largely tributary; and,
Third class: That which will be so partially and perhaps only in a small degree.
In making the distribution we make use of data already given.

In the first class, that of entirely tributary commerce, we place the follow	()
Trade between Atlantic and Pacific ports, United States, etc., not included	Tons.
in table of values; estimated at	275,000
Trade of Pacific ports with Great Britain, France, Germany, Belgium,	
Cuba, and Brazil, tabulated at \$42,252,304. (In this total is included	
the value of the wheat export from San Francisco.) It should therefore be divided as follows:	
\$21,527,725 wheat and flour, reported at	692, 500
\$20,724,579, estimated at \$61 per ton	339, 747
Trade of Atlantic ports of the United States with Hong-Kong, China,	
Japan, British Australasia, Philippine Islands, Hawaii, Peru, Ecuador,	
and Chili, amounting to \$54,003,533. This also may be divided as fol-	
lows: \$6,456,448 for coal oil (C & N., 292)	322, 626
\$47,547,085, estimated at \$61 per ton	779, 460
(The division is made for the purpose of adding the increase of coal-oil	, 200
shipments for the years 1889-'90, which were over 50 per cent greater	
than those of 1888-'89, as shown by British consular reports of receipts	
in China, Japan, and British East Indies.)	
Add, therefore, for existing coal oil traffic, 1889-'90, 50 per cent of 322.626 tons	161, 313
Coal oil to British, French, and Dutch East Indies from Atlantic	202,010
ports for 1888-'59 (see Second Class C. & N., 292) 343, 242	
Add 50 per cent increase 1889–90	
	F10 000
	519, 863

(United States Government reports give the export of coal oil, crude and refined, to the countries named for 1888-'89 at 665,868 tons. Messrs. Frazar & Co., of Yokohama, show an increase of shipments received in China, Japan, and British East Indies during 1889-'90 of 294,937 tons, or over 61 per cent increase.)

	Tons.
Trade of Great Britain with Ecuador, Peru, and Bolivia, amounting to \$19,003,610. This must also be divided as follows:	
\$5,225,170 for nitrates and guano	1,911,433
\$13, 778, 390, estimated at \$61 per ton	225, 884 105, 589
Total first class, entirely tributary, tons	5, 333, 415
SECOND CLASS-largely tributary.	
Ganaral husiness between British Franch and Dutch Fast Indiscend New	
General business between British, French, and Dutch East Indies and New York, \$30,127,664.	
Of this total a part has already been considered as belonging to Class 1,	
viz, the exports of coal oil from Atlantic ports of the United States; there is, therefore, to be deducted \$6,275,800 for its value, leaving	
\$23,841,864 which, at \$61 per ton, is equal to 390,850 tons, of which we may assume one-half as tributary.	195, 425
The trade of Central America with the United States will also take place in this class. In 1889 it amounted to \$5,170,980, at \$61, equal to 84,770	,
tons, but as much of it is coastwise with San Francisco, and considerable	
of it fruit from the Caribbean coast to New Orleans and New York, we may take one-quarter only as tributary say	21, 192
The trade of Great Britain with Hong-Kong, China, Japan, the Australian	#E, 10%
colonies, New Zealand, Tasmania, Philippine Islands, Chili, and Central America will be attracted in proportion to distances. It amounts to	
\$457,059,308. This should be divided as follows:	
Exports of nitrates, guano and wheat, value	
Remainder	
7,951,588	
Take one-quarter	1, 987, 899
Trade of France with New Calcdonia, Japan, and Chili, amounts to \$27,184,683, at \$61 equal to 445,650 tons; take one-quarter	111, 412
Tons.	,
Trade of Germany with Australia, Japan, and Chili, amounts to \$29,106,392, at \$61 equal to	
Add Hamburg with Australia 65, 300	
Take one-quarter	400 044
Take one-quarter	135, 614
300,000 tons; take one-quarter	75, 900
Total second class	2, 526, 542
THIRD CLASS—partially tributary.	
In this class we may include—	
Trade of Spain with Philippine Islands	\$4, 123, 000
Trade of Netherlands with Dutch East Indies Trade of Great Britain with Java	66, 080, 000 22, 358, 760
Trade of San Francisco with China, Japan, etc	43, 915, 593
Total	136, 477, 353
At \$61 equal to	Tons. 2, 237, 333
At \$61 equal to	
ments, as estimated	1, 956, 837
Total	4, 194, 170 262, 136
Of which take one-sixteenth; total third class	202, 130

SUMMARY.

	Tons.
First class, entirely tributary	5, 332, 415 2, 526, 542
Third class, from tonnage partially tributary	262, 136
Total	8, 122, 093

This is an approximate estimate of the tonnage existing in 1889 and to-day, which the canal might expect to control if it were open to traffic.

M. Levasseur and his associates in 1879 estimated that the tributary tonnage which might be anticipated for 1889 was 7, 250, 000. Facts more than confirm their expec-

tations, and demonstrate the propriety of their method.

A study of the Table of Distances appended," and a consideration of the influences operating, will show the principle upon which the division into classes has been made. In taking the fraction of the respective aggregates which the second and third classes may be expected to contribute, we have claimed less, rather than more, than a reasonable expectation would allow. It is with regard to the third class only that any explanation seems necessary as to the reasons which have suggested the claiming a portion of it as tributary. A majority of the trade in this class originates beyond the recognized dividing line of 110 degrees east from Greenwich, especially the trade of India, and can not be expected to pay any large tribute to the canal, except, perhaps, of at a rate as low as that of the Suez Canal, whereas we have assumed \$2.50 as the probable toll. The tolls of the Suez Canal, all charges included, amount at present to about \$1.96 (9.80 francs) per registered ton. The trade of the Philippine Islands with Spain is not open to the same objection, but, on the other hand, her Mediterranean ports are nearer than the Atlantic ports of that country or of Europe. We have referred to the prevailing winds and ocean currents, and the more favorable temperature of a passage by the Nicaragua Canal rather than by the Red Sea and Suez. These are reasons of some importance in controlling direction. addition to these reasons much of the business considered is carried in sailing vessels which do not go by the Red Sea route at all; they have to double one or the other of the capes. To them the Nicaragua Canal and prevalent winds and currents will afford advantages which to a steamer might not be of so great importance. Moreover, there is a large traffic which now goes from this region, first to England or other parts of Europe and comes to us from thence, which, when the canal is open, must and willcome direct. Large quantities of plumbago used in the foundries throughout our country is carried from Ceylon, where it is mined, to England, and then sent here to supply our needs; thousands of tons of straw braids from China, and other commodities from other parts follow the same route. These are the sufficient reasons for assuming to claim a portion, and we have claimed only a very small portion, of the enormous trade of these remote points.

Thus far we have considered the question with reference only to what exists to-day, and our conclusions are based upon statistics for the years 1888 and 1889. Allowing that the canal will be ready for traffic in the year 1897, and admitting our estimates to include all increase realized in 1889 by the countries whose statistics are given only for 1888, we have eight years growth of commerce to make allowance for in estimating the amount of business which at the opening of the canal will be ready

for transit.

For the ten years, of which 1888 was the last, the commerce of the four great commercial nations shows the following increase:

Countries.	1879.	1888.
Great Britain France Germany United States.	\$2, 977, 204, 200 1, 917, 186, 874 1, 841, 726, 925 1, 278, 762, 621	\$3, 336, 087, 844 1, 830, 682, 200 2, 306, 258, 318 1, 417, 172, 421
Total	8, 014, 880, 620	8, 890, 200, 783

Increase, \$875,320,163, or about 10.9 per cent.; prices of staple commodities have changed but little during the time, except that wheat is about 10 cents per bushel lower, but they have rather declined than advanced. The tonnage equivalent would therefore not be materially changed. We may then estimate the advance for the years 1888 to 1897, both years included, say nine years, at 10 per cent. But this

is only normal growth, and for reasons worthy of consideration, we have the right to expect more than a normal growth of the commerce to which the Nicaragua Canal will afford a means of transit.

With the opening of the canal not only will a new route be provided, but new fields will be opened for commerce as well as more advantageously provided for.

The products of our Alaskan possessions, as well as of Washington and Oregon, mostly low-priced commodities furnishing a large bulk of tonnage, will be brought at less cost to eastern markets, the markets of the western coast of South America will be opened to the low-priced coals of our Southwestern States, and the coasting trade now carried on with the West Indies to the extent of over 500,000 tons per annum will be multiplied beyond calculation. If a traffic of 500,000 tons has been developed within the limits of the Caribbean Sea, what may be expected when the markets of the Pacific coast of Colombia. Mexico and Central America, of the States of Ecuador, Peru, Bolivia, Chili, and of Sonthern California are opened to easy access for our coasting vessels?

In our existing lake and coastwise trade, steel barges carrying from 1,500 to 3,000 tons freight, transported by powerful tugs, are taken at low cost to market points, and there left to discharge and reload for a return voyage, while their motive power returns without delay with freights, in similar barges, made ready for departure before its arrival. Thus movement of freight is accelerated, invested capital is made to yield its largest returns, shippers profit by the possibility of lower rates and consumers by the possibility of lower prices. Under such methods the traffic of the Sault Ste. Marie Canal has developed from 1,802,571 tons in 1881 to the enormous aggregate of 7,221,935 tons in 1889, and is exceeding the ratio of that year for 1890. And this traffic has grown up in connection with the internal trade only of a portion of our Northwestern States with the East. Like results will follow similar methods, which are equally possible in the waters opened by the Nicaragua Canal, and American enterprise will not be slow to avail itself of the unprecedented opportunity. What people ever have had such an opportunity put before them? To-day England is practically as near the markets of western South America as we; to-morrow we shall be 7,000 miles nearer than she is to-day in a distance of 10,600 miles by existing routes. We shall still have the advantage over her of the Atlantic's width when the canal is opened, nearer by so many miles to a market for our cotton goods and manufactures of every kind, with machinery, agricultural implements, furniture, woolen goods, carpets, and coal to sell, and the needs of 75,000,000 of people at home to furnish a reciprocal market for the products which they have to offer us. But this is not all, perhaps only the smaller portion of the whole. We have only briefly mentioned the products of our own possessions north of California, the forests and fisheries of Oregon, Washington, and Alaska, and the products of British Columbia.

The salmon pack of British Columbia, Alaska, Washington, Oregon, and California amounted in 1888 to 1,683,800 cases, about \$4,200 tons, valued at \$9,064,000, exceeding in quantity the pack of 1888 by 527,000 cases; 630,000 cases of the product was from Alaska, and 422,000 from British Columbia. This is a growing industry. The pack amounted in 1880 to only 679,490 cases; in ten years it has increased nearly 250 per cent.; by 1997 at the same ratio of increase it will amount to nearly 3,500,000 Hop growing as an industry was commenced in Oregon and Washington in 1865. Last year the product was 70,000 bales, regularly quoted and competing with other goods in the New York market. The fur-seal and whale fisheries are also

growing and important industries.

The cultivation of India rubber in Central America and on the western coast of California is already attracting attention. The increasing demand for the gum and the destruction of trees in their natural state by the reckless huleros or native gum gatherers, makes attention to an artificial supply for future demands of manufacture imperative. Already large manufacturing corporations in this country are making Already large manufacturing corporations in this country are making plantations to meet it. The huleros are so careless that not only are they destructive of the trees but much of the gum brought by them to market is in bad condition and commands only 26 cents per pound, whereas when properly collected it is worth as much as 80 cents for the best quality. The tree grows naturally in Central America and Mexico. The western coast of the last-named country, between the ocean and 1,800 to 2,000 feet of elevation above the level of the sea, seems particularly favorable to its best development. A plantation is made with shoots gathered in the forests, and with proper care will be in condition to yield a crop in six or seven years; a tree in good condition yields 10 to 12 pounds per annum, and, if not maltreated, continues to yield year after year, apparently without limit. Its yield is worth, according to quality—which depends chiefly upon its treatment—from 50 cents to 80 cents per pound. This, too, is an industry which will pay tribute to the canal.

But in the forests of the northwestern Pacific coast there is material which needs only the facilities of the canal for its transportation to a favorable market to yield a tonnage which alone will probably exceed that of all other industries combined. The wonderful growth of the lumber trade of that section under present limitations of transportation is an indication of the magnitude to which it will grow with the opening of new and more extended markets by the shortening of distances to them on lines within the still waters of the temperate and torrid zones, instead of by the routes now existing through the tempestuous seas of the storm zone.

E.P., 3, 24, '88 In 1886 the shipment of lumber from Oregon amounted to 6,000,000 tons. In 1888 the amount cut amounted to 706,985,000 feet, and the shipments abroad

to 471,325,000 feet, equal to 981,925 tons, or nearly 1,000,000 tons.

Concerning the lumber trade with eastern markets, the Post-Intelligencer, of Seattle,

Wash., publishes the following under the dates indicated:

July 11. The Sound sawmills (Puget Sound) have lately been filling special eastern and southern orders for extra length stuff. Quite a large number of huge spars have been lately shipped from Sound ports to the east, where there is ever an active market sale for that material.

July 14. The Puget Sound cedar shingles were first endered in the eastern markets five years ago. The demand for them has ever since steadily increased, and now shingle mills all over the Sound are shipping their product east as far as Ohio

(i. e., at railroad rates).

The forests of Maine no longer yield the timber needed for masts and spars of large vessels. In the forests of Oregon trees grow to 12 feet in diameter and 300 feet in height. The average length of sticks to Boston from Puget Sound by the bark Crapo, in the cargo, the arrival of which has been already mentioned, was 126 feet, and their average diameter 39 inches. Sixty of the sticks were bought by a shipbuilder of Bath, Me., and were made into a raft and towed around to his yard. This fact shows how depleted the Maine forests are of spar timber. Cuba has attempted the importation of lumber for building purposes around Cape Horn, but found the experiment too costly to be continued. In our Southern States their own hard pine, though less desirable, is taking the place of soft pine because of advancing prices. All these demands will be met and supplied from the Oregon and Washington lumber fields with the opening of the canal. Any estimate of what the demand and supply would aggregate is mere conjecture, but considering as a whole the coastwise trade, including mahogany, rosewood, ironwood, and teak of Southern Pacific coasts, the growing trade of Central America in coffee, cocoa, India rubber, mahogany, and other hard woods, the furs of Alaska, and the seal fisheries, whale oil, wheat, canned salmon, and other products of British Columbia, Washington, and Oregon, spar timber and other lumber from the forests, and our outbound trade in coal, textile fabrics, agricultural implements, machinery, iron goods, etc., 1,000,000 tons per annum will seem a very small estimate to put upon it.

Aggregating the various items thus estimated we have the following:

SUMMARY

Of trade which will be subsidiary to the canal at its opening:	m
Traffic existing in 1889, as estimated	
New business developed by opening of the canal	
Aggregate	9, 934, 302
Which may be considered as traffic properly belonging to the canal, and to by it from the total of the commerce within the zone of its attraction in 18	
	Tons.
The aggregate of tonnage within this zone of attraction in 1889 amounted to	18, 785, 350
Deduct subsidiary traffic existing in 1889	8, 122, 093
And there remains	10, 663, 257
And we have as a remainder	

And we have as a remainder 11,729,583 From which the canal, after its opening, may further add to its traffic in such degree as its tolls and the practical development of other controlling influences may determine.

APPENDIX A.

Table showing distances in miles between commercial ports of the world and distances saved by the Nicaragua Canal.

From-		Via Cape Horn.	Via Cape of Good Hope.	Via Nic- aragua Canal.	Distance saved.
New York to-		Miles.	Miles.	Miles.	352
San Francisco					Miles. 9, 894
Bering Strait				4, 946 8, 026	9, 895
Sitka				6, 209	9, 896
Acapulco				3, 122	9, 949
Mazatlan				3, 682	9, 949
Hong-Kong			15, 201	11, 038	4, 163
Yokohama			16, 190	9, 363	6, 827
Melbourne			13, 290	10, 000	3, 290
			14, 125	8, 680	3, 870
Sandwich Islands			12, 120	6, 388	7. 812
Callao				3, 701	6, 988
Guayaquil				3, 053	8, 418
Valparaiso				4, 688	5, 062
New Orleans to-		0, 100		2,000	0,002
an Francisco		15, 052		4, 047	11, 005
Acapulco			*********	2, 409	10, 874
Mazatlan				2, 969	10, 874
Guayaguil				2, 340	9, 343
Callao			**********	2, 988	7, 913
Valparaiso				3, 987	5, 975
Liverpool to-		0,002	********	0,007	0, 010
San Francisco		14, 690		7, 694	6, 996
Acapulco				5, 870	7, 051
Mazatlan				6, 430	7, 051
Melbourne			13, 140	12, 748	392
New Zealand			13, 975	11, 349	1, 051
Hong-Kong			15, 051	13, 786	1, 265
Yokohama			16, 040	12, 111	3, 929
Guayaquil			10, 090	5, 890	5, 431
Callao				6, 449	4, 090
Valparaiso				7, 436	2, 144
Sandwich Islands				9, 136	4. 944
			13, 951	13, 520	431
France to Tonquin			15, 201	13, 887	1, 314
Samburg to—		11, 100	10, 201	10,001	2, 02.
Mazatlan		13, 931		6 280	7, 051
Acapulco				6, 320	7, 051
Fonseca				5, 530	5, 900
Punta Arenas, Costa Rica		11, 120		5, 515	5,605
I till Aleman, Cook Inca	*************	11, 120		0,010	0,000
	1				
	To eastern			Te	western
Passe	entrance of	TP		en	trance of
From-	Nicaragua	Fron	-	N	icaragua

From-	To eastern entrance of Nicaragua Canal.	From-	To western entrance of Nicaragua Canal.
New York Liverpool Hamburg Amsterdam Havre Cadis	4, 769 5, 219 4, 994	New Orleans San Francisco Valparaiso Callao Portland Victoria	Miles. 1, 308 2, 776 2, 518 1, 531 3, 219 3, 428

NOTE.—The distances have been measured by customary routes most convenient for sailing ships and slow freight steamers.

APPENDIX B.

AUTHORITIES AND ABBREVIATIONS.

& N.-Annual Report on Foreign Commerce and Navigation for year ending June 30, 1889. Treasury Department, U. S. A., Government Printing Office, 1890.

S. Y. B.—The Statesman's Year Book of Facts for 1890, MacMillan & Co., London

and New York, 1890.

Lev. —Rapport de M. Levasseur sur le Commerce et le Tonnage relatifs au Canal Interocéanique, lu en Séance Genérale du Congres Internationale, 1879.

E. P. -Evening Post, March 24, 1888, Article on the Nicaragua Canal; figures

3, 24, 188. from U. S. Bureau of Statistics, year ending June 30.

S. F. J. C.—San Francisco Journal of Commerce, Annual Review, February 6, 290.

HEARING BEFORE A SUBCOMMITTEE OF THE COMMITTEE ON FOREIGN RELATIONS OF THE UNITED STATES SENATE, THURS-DAY, MAY 22, 1890, IN RELATION TO THE NICARAGUA CANAL COMPANY.

The subcommittee met at 1 o'clock p. m. Present: Senator Edmunds (chairman), Senator Dolph, and Senator Payne.

Senator Edmunds read the following resolution:

IN EXECUTIVE SESSION, SENATE OF THE UNITED STATES, April 11, 1890.

Resolved, That the Committee on Foreign Relations be, and it hereby is, directed to inquire into what steps have been taken under the act of Congress entitled "An act to incorporate the Maritime Canal Company of Nicaragua," approved 20th February, 1889, and what are the present condition and prospects of the enterprise; and to consider and report what, in its opinion, the interests of the United States may require in respect of that interoceanic communication.

Attest:

ANSON G. McCook, Secretary.

STATEMENT OF HON. WARNER MILLER.

By Senator EDMUNDS:

Q. What, Mr. Miller, is your present relation to the company that I assume was organized under the act of Congress to incorporate the Maritime Canal Company of Nicaragua, approved February 20, 1889 !-A. I am the president of what is known as the Nicaragua Canal Construction Company.

Q. What sort of company is that, and under what law organized?— A. That company is organized under the laws of Colorado—a general

law of the State.

Q. Have you a copy of the articles of your association here present?— A. I have not.

Q. Who is the president of the Maritime Canal Company of Nica-

ragua ?-A. Mr. Hiram Hitchcock.

Q. What are the relations between your construction company and the canal company organized under this act of Congress?—A. The canal construction company, of which I am president, has contracted

with the Maritime Canal Company to build the canal.

Q. Well, was a company organized under this act of Congress? I thought until this moment you were president of that company.—A. The Maritime Canal Company was regularly organized under that act and exists to-day, having its offices and board of managers, and has fully complied with the law.

Q. And Mr. Hitchcock is the president of that company !-- A. He is

the president of that company.

Q. Do you know who make up the whole body of directors of the company organized under the act of Congress?—A. Mr. Hiram Hitchcock, Mr. Hotchkiss, Mr. Stout, Admiral Ammen, Mr. Goodwin, Mr. Fairbanks, the Nicaraguan minister and others.

Senator PAYNE. Suppose you furnish a list with full names and resi-

dences.

Mr. MILLER. I will do so with pleasure.

By Senator EDMUNDS:

Q. You, then, Mr. Miller, as the president of the Construction Company, have undertaken to do the work, so far as it is yet provided for, of the company organized under this act of Congress —A. Yes.

Q. Now, will you please tell us how much money, so far as you know, has been actually raised that can be drawn upon, and how far you have expended it, and what has been done on the Isthmus down there, in detail-not minute detail, of course-but so that we can see just how far you have got on and what you are doing. State it in your own way.—A. Before the granting of this charter by Congress an association of gentlemen existed, the Nicaragua Canal Association, who subscribed money which was used for making the preliminary surveys, and for all the work pending the securing the concession from the Government of Nicaragua. That association raised and expended between a quarter and half a million dollars-I have not the exact figures, but propably in round numbers not far from \$300,000—in making surveys in order to settle to their own satisfaction as to whether a canal could be built and the work that was necessary to secure a concession. ter that was completed, the Construction Company was organized, and they raised the money which has been expended upon the canal during the first year. That stock was all properly subscribed for and had been paid in by installments, until now there remains two installments of 10 per cent. to be paid in upon that. Out of that money the work has been carried on during the past year.

(Memorandum.—Mr. Miller here produced a pamphlet entitled "Maritime Ship Canal. Nicaragua, 1890," with inclosed maps and delineations, and referred to map marked A, representing, on a small scale, both

oceans and Lake Nicaragua, Greytown, Brito, and the river.)

Mr. Miller. I will make a general description of what we have done and ask Mr. Menocal to give you a more detailed account of the engineering work that has been done and is in progress. A year ago the first expedition of the new company was sent out to Greytown, and that expedition established our headquarters at a point where the Nicaraguan Government decided the entrance of the canal should be, proceeded to erect warehouses, barracks, headquarters for the officers and the engineering corps, and also a hospital. From this site we sent out six engineering parties, consisting of six engineers and twenty men each, who have been constantly engaged in the location of the canal and making the surveys, so much in detail as to enable the company to lay before contractors completed details of the work.

Q. That, then, is the actual work of location ?—A. Yes. Aside from the engineering work the first work undertaken with the canal proper has been that of opening the harbor at Greytown. The harbor at Greytown has been closed for twenty-five years by a bar being formed across the mouth of it. All communication had to be had by ships lying out-

side and going in in small boats and lighters.

Q. Is that harbor within the area of the mouth of the river?--A. The

harbor that we are to occupy—

Q. No, I mean the old harbor. Where is Greytown with reference to the mouth of the river that flows out of Lake Nicaragua?

Mr. MENOCAL. It is at the mouth of one of the outlets of the San

Juan River.

Mr. MILLER. The harbor which the company has taken as its harbor and which it has undertaken to improve is the old harbor as it existed twenty-five or thirty years ago, which consists now of an inclosed basin, being entirely shut off from the sea by a bar which has formed across the mouth of it. That harbor is of sufficient capacity for all the vessels that can ever go through the canal—for a large fleet. It has from 14 to 20 feet of water now.

Q. Is that harbor at or near what was formerly one of the northern outlets or at present of the river?—A. Yes; it was the northern outlet and the most important outlet thirty years ago, but that was closed by a bar and the river has broken through to the southeast. The first work done in connection with that was to build a pier or breakwater

from the harbor out to a line of 30 feet of water at sea.

Q. Crossing that bar ?—A. Crossing that bar, and for the purpose of dredging out a channel alongside the pier when it was constructed.

Q. How far out is that pier?

Mr. Menocal. The breakwater will have to be about 2,500 feet long. Q. Well, how far out from the main-land is this bar?—A. This bar

extends 2,000 feet from the main-land.

By Senator DOLPH:

Q. Do you expect to get any greater depth of water in the harbor after opening a channel through the bar?—A. The harbor is to be dredged out to 30 feet, the same as the bar. The first work was to build a pier or breakwater.

By Mr. EDMUNDS:

Q. Wait a minute; I want to find out the hydrography and topography of it inside of this bar, which I will assume to be 2,000 or 3,000 feet out on the shore line. How deep is the water?—A. As I just stated, it varies from 14 to 20 feet.

Q. And on the bar there is only 6 or 8 feet, I suppose?

Mr. MENOCAL. Yes, and even less than that, because this river had broken out at another place and what used to be the outlet is now entirely cut off from the sea.

Q. And the great volume of the water goes to the southeast?-

A. Yes.

By Senator DOLPH:

Q. What is the rise and fall of the tide?—A. Only 18 inches.

Q. Is there any considerable swell ?—A. Yes.

Q. How does it compare with the coast of California?—A. Very much less. The swell there on the bar is very seldom 4 or 5 feet, and gener ally very much less.

By Senator Edmunds:

Q. Proceed, Mr. Miller, with your general statement of the substance of things you have done and are doing.—A. The company began building this pier or breakwater, which is to extend to the bar and out to deep water, or 30 feet of water at sea. That pier has been extended out about 700 feet. It is constructed first of creosoted piles, which will resist the attacks of the terredo, 40 feet wide, and the piles are driven into the sand at great depth, so as to make it very secure. Then it is

filled in with loose rock in order to make it absolutely secure, and thus far the work has gone on most satisfactorily.

Q. Are there any cross-timbers between the piles !- A. It is all

heavily framed together.

Q. Makes a crib in fact, though it is not sunk and piled with pile on the outside?—A. Piled with piles and then to be filled with large rocks eventually. An immense breakwater will eventually cover this entire

piling and make it perfectly secure.

Q. So that this crib work, we might call it, will be protected finally with a riprap !—A. A riprap covering the whole of it. This breakwater is constructed at such an angle as to anticipate the shifting of the sands along the beach, and the channel is to be dredged on what we call the lee side of the breakwater. The first work after the building of this breakwater has now got out to a depth of 12 feet at sea; so we propose to commence now the dredging of the channel through the bar in order that vessels of light draught, like schooners and sailing vessels which we want there with material, may be able to come in and save lighterage. Once inside the bar they are in a perfectly inclosed basin or harbor, with 18 feet of water, entirely sufficient for ordinary vessels.

The contract for dredging this bar and harbor to a depth of 20 feet has already been let, and the first dredges are now on the way to Greytown, having sailed from this country a few days ago. Two other dredges are being built, and will go forward in the course of a few weeks. The first cut across the bar is at a depth of 12 feet of water. That, under contract, is to be completed in one hundred and twenty-five days. Then the second cut is to be 20 feet, and that is to be completed in one hundred and twenty-five days more. When the first cut is made we can get in with schooners and vessels such as we are sending down, and when the second cut is made we shall be able to go in in good-sized steamers. The company thought it wise to do this work first, because one of the important engineering questions was whether a safe harbor could be made at this point. Without trespassing upon Mr. Menocal's statement of engineering work, I will say that this harbor when open will be substantially an inclosed harbor in which the river San Juan will be shut off, having its mouth where it is now, further south and east, so that whatever débris will come down will never be deposited in this harbor, so that when it is once dredged out there is no reason why it will not remain perpetually, because it is entirely an artificial harbor and entirely inclosed.

Q. If I understand you, once the breakwater being built and the cut through the bar into the deeper water inside being made, this very bar itself forms against storms a shelter for vessels, as breaking the seas

down 7-A. Yes.

Q. So that nature has built this harbor for you, providing you once

cut your way into it ?-A. Yes, it is a breakwater now.

Q. Now, about what is the size of that inclosed area, that being thus formed will allow vessels to come in where without any dredging you could get, say, 20 feet of water—how broad a space?

Mr. Menocal. It is about 2 miles wide by 1 mile as to the size of the

the lagoon or basin we are going to convert into a harbor.

Mr. MILLER. It will be a perfect basin 1 by 2 miles.

Q. Now go on, Mr. Miller, and tell us what else you have done.—A. The final line of the canal, the engineering work, has been done down to Ochoa, the dam from which point we use the lake. The distance from Greytown to Ochoa by the line of the canal is 30 miles, and that

engineering work has been substantially completed. The definite line of the canal has been located and the engineers have taken borings of all the cuts that have to be made. Where the rock cut is located we have bored down toward the bottom of the canal at distances of 1,000 feet apart, and we have samples of all the kinds of rock and material, so that we can show the contractors and engineers precisely the kind of material they are to meet with.

Q. This distance of 30 miles brings you to the river below the rapids or to the lake, does it?—A. It brings us to the river, at which point we

dam the river where it is on the level of the lake.

Q. From that point where you dam the river below the rapids how far is it to Lake Nicaragua?

Mr. MENOCAL. Sixty four and one-half miles.

Q. What have you done on that line? Have you got water enough? Mr. MILLER. We have advanced to Greytown, and have been clearing the line of canal of the dense tropical growth and have cleared probably one half of the distance from Greytown to the first lock, or more than that across the lagoon. This material has all been cut down, a dense growth, and during the late dry weather it has been burned over, so that it is ready for the dredgers. In addition to that we have commenced the construction of a fresh-water aqueduct 13 miles long to bring fresh water from the mountains down to Greytown in order to preserve the health of the men and to give us pure and fresh water.

Q. What sort of an aqueduct is that?—A. This aqueduct is composed of a steel pipe, covered inside and out with asphalt to preserve it from rusting, and it is estimated it will furnish Greytown and all of our

ships and barracks and hospitals with pure drinking water.

Q. What about is the length of that?—A. It is about 13 miles in length.

Q. What is the head?—A. One hundred and fifty feet.

Q. That will give you a good head ?-A. Yes.

Q. Have you told us about the hospital work, if any, and the state of health, and how many men you have got there altogether, and how the thing has appeared in respect of the possibility of white men living there and carrying on this work?—A. Among the first things that the company did was to organize a medical department and erect hospitals. They had sent the buildings down complete, having been built in New York, and appointed a chief surgeon and four assistants. has been that we have a perfect record of the health of all the men who have been in the employ of the company during this year from the hospitals, which have been kept very carefully. There has been no epidemic and no serious sickness on the force at all. The hospital records show that the two principal diseases have been chills and fever and diarrhea, diarrhea caused by the drinking of the bad water in the lagoons, as the men would do of course when they were in camp and surveying parties. The chills and fever seem to have been very light in their attacks, as the records show that the majority of the men going into the hospital have stayed not more than three days or a week, perhaps an average of four to five days in the hospital from chills and fever.

Q. Can you tell us what has been the percentage of mortality since you have been there among all the persons who have been in the employ of the company?—A. I believe that there has not a single person died in the employment of the company from any disease contracted there. One or two men have been killed by the natives and in drunken

quarrels.

Q. I mean mortality from diseases of the country?—A. The only case

that can be charged of that, and perhaps not even that, was one mechanic who was sent down from New York and became dissipated and was discharged for drunkenness and sent home, and after being home some weeks he died, it is perhaps not to be charged even to the climate, but all the engineers, all the machinists of all kinds, who are all Americans from the United States, not a single one of them has died there, and sickness has been, as I stated, chiefly due to the two causes and it has been very slight as to them.

Q. Then, if I understand you, you mean to say that, so far as your experience has now gone, with Northerners going down there, the state of the climate is not such as to give any serious apprehension at all !—

A. That is the experience of the first year.

Q. Yes, as far as you have gone?—A. And the hospital records very fully show it, and from this time on the conditions ought to be very much better than they have been, because now we have houses and barracks and everything that belongs to a civilized man, and we shall very soon have pure water for all to drink, and we have not any doubt that that will remove almost entirely the cause of diarrhea and dysentery, as to the engineers and machinists who are now there, and have been there for a year and become acclimated; and the late returns from the hospital show that the number of men in hospital is very much less than it was six months ago. There have been on the average during the past year five hundred men in the employ of the company during the whole year.

Q. If you know, tell us what is the highest temperature that is experienced there?—A. Well, I get my information from Mr. Menocal on

that, but I understand the highest is not over 95°.

Mr. MENOCAL. Eighty-four or 85 is the average at noon and about 75 in the evening; generally about 75 in the night.

By Senator DOLPH:

Q. That is at Greytown ?-A. Yes. .

Q. I suppose it is higher as you go into the interior ?—A. As you go into the interior it is cooler in some places, and in some places warmer; but I never saw it above 90 or below 70. The lake region is never above 80.

By Senator Edmunds:

Q. Well, that is the present condition of the thing as it appears on

the surface of the earth.

Mr. MILLER. We have not got through with detailing our work yet. We built a short line of railroad from the beach up into the town in order to move the materials from the landing-place, about 2 miles of road, and we have made completed surveys for a line of railroad from Greytown to what we call the divide or the rock cut where the locks are to be laid, and the rise is made which brings the canal up to the level of the lake. Seventeen miles of surveys of that road are entirely completed and it is now in process of construction.

Q. I thought Mr. Menocal said the distance was 30 miles?—A. No, the distance is 17 to the divide, and then we rise up and run through a

cut or basin like to the Ochoa dam, which is thirty miles.

Q. There you have reached the level of the lake which the dam will produce?—A. We reach the level of the lake then. We reach it at the third lock. You understand we come out of the lake a distance of 65 miles down the San Juan River and at that point we leave the river entirely and cut straight across to the ocean, saving a distance of 30 or 40 miles by reason of the river becoming very sinuous and crooked

through the swampy ground. We leave the river entirely at Ochoa dam and go straight across to the sea. This railroad is now in process of construction. The construction was begun about six weeks ago, the first work, and there are now at work upon it at least five hundred men. We have shipped down steel rails, two locomotives, a large number of flat cars for completing the road, together with steam shovels and piledrivers and all the necessary machinery for the completion of this road, which is to be finished early in the fall. The necessity of this road will be seen from the condition of the country. It is impossible to move any machinery or any supplies of any quantity over this low marshy ground or lagoons in any other way. It is an absolute necessity that we should build the railroad and we build this first piece of railroad 17 miles until we strike what is called the great rock cut, or divide, which is the heaviest single piece of work on the entire line of the canal, and we build the railroad to attack that first. It will take one or two years to do that. Then the rest of the work we cut at as soon as possible, when everything that is necessary for this great cut can be easily moved from the sea into the interior.

Q. What sort of a country does that cross?—A. The first 10 miles entirely level, largely swamps, and the rest only a very few feet above

the level of the sea.

Q. Where do you get your material for making your embankment or whatever you call it?—A. We get it on the sides of the road itself. The swamps are quite dry now at the end of the season and dirt is thrown up and what is not got that way is to be taken from the season.

shore by trains, for which purpose we send down cars.

Q That is sea-sand?—A. Sea-sand taken right from the mouth of of the canal. We get a large part of it right out of the mouth of the canal, so that while we are building the railroad we are excavating the canal at the same time. When we reach this rock cut at the end of 17 miles we shall begin to take rock out and take it down to Greytown to complete this breakwater, or pier as we call it. A very large amount of the rock from the cut will be used. (The rock cut is marked a on the map with red pencil.) In addition to the work on this railroad the company began early to build a telegraph line from Greytown up to Castillo to meet the Government telegraph.

Q. Where is Castillo?—A. It is 24 miles below the lake on the river San Juan. The company constructed about 75 miles of telegraph line and has it in operation, connecting Greytown with the Nicaragua Government telegraph, which comes down to Castillo; so that we are in telegraphic communication with our headquarters at Greytown all the time by this line, which it is of course very important that we should

have.

Q. Is there anything else that you have not already stated in regard to the actual operations that you have already carried on there?—A. Nothing perhaps of very much importance in the way of work that has been done.

By Senator PAYNE:

Q. Have you stated how many men there are in your employ?—A. We have now nearly if not quite a thousand men employed on the pier and upon the clearing and upon the line of the canal and upon the railroad, and are constantly sending more in from Jamaica. We are shipping down large quantities of railroad material and machinery.

By Senator Edmunds:

Q. Supposing you have a thousand men now employed, how many of

those are Americans, for instance?—A. Probably not more than two hundred—one hundred to two hundred and fifty of those are Americans. The entire engineering officers and all the skilled laborers, foremen, stationery engineers, locomotive engineers, and men that work on the pier and the pile driving—all the skilled work is in the hands of American citizens whom we have sent from New York.

Q. Out of all these during the time you have now been operating, as I understand you, there has been no serious climatic disease to make it extra dangerous for a person from the United States to go there?—A. That is correct; there has been no serious sickness of any kind and no

deaths among any of that force.

Q. Where do you get the rest of your labor, the men who merely pull and dig?—A. We get some native Nicaraguans, but we get the bulk of them from Jamaica—Jamaica negroes—and some come from the West India Islands, etc.

Q. Now take the native Nicaraguan, what sort of people are they as

laborers in respect of intelligence, capacity, and so on ?

Mr. MENOCAL. They are a very good class of men, very industrious, and preferable to any other class of laborers that I have been able to obtain.

Q. They are real hardy, effective laborers, are they !-A. Yes, excel-

lent men.

Q. Are they willing to work !-A. Yes.

Q. What do you pay for labor down there ?—A. We are now paying about \$15 a month, American money, or 20 soles, and feed and board the laborers. Of course we give them their board and quarters.

Q. Now, Mr. Miller, if you have finished the general statement about

the present situation——

Mr. MILLEB. I might just add one more thing in regard to that. We found on the San Juan River a steam navigation company which had chartered rights from Nicaragua, and as they had the exclusive right of navigating the river with steam and the lake also, we found it necessary to become the owners of that line in order that we might prosecute our work and use it; and under the concession we had a right to do that, and we took in this entire steam-ship line, with its vessels and everything connected with it, and are now carrying it on. We use it, of course, as a means for delivering our goods and carrying our supplies up the river and up the lake.

Q. What was the name of that line before you took it?
A. The Nicaragua Mail Steam Navigation Company.

Q. Who were the people? Were they people living there?

Mr. MENOCAL. Mr. Pellas.

Q. When was this concession made to the steam ship line?—A. The concession was made—I know it was renewed in 1877 or 1878. It had been made before to an American by the name of Hollenback and he afterwards sold it to Mr. Pellas, an Italian, who became interested in this navigation company and bought it, then the concession that Mr. Hollenback held lapsed in 1877 or 1878 and a new concession was granted to Mr. Pellas.

Q. Direct !- A. Direct.

Q. Was that an exclusive concession?

Mr. MILLER. The exclusive privilege of navigation by steam on the lake and river.

Q. Have you within reach that you could give us a copy of that Nicaraguan concession?—A. I have not any copy here. I have one in New York.

Q. Is it in print, so that you could send us a copy without serious inconvenience?—A. Of the navigation company?

Q. No; I mean this navigation company that you bought out.—A.

It may be in print, but if it is in print it is in Spanish.

Q. I do not care about that. I wish you would send us a copy.—A. Yes, I will.

Q. Now, you had to take this company in order to execute the mis

sion you had in hand ?-A. Yes.

Q. Now, are you willing to tell us, in the confidence of this committee and running the risk of its getting out, how much you had to give for that ?—A. Three hundred thousand dollars.

Q. Was that the maritime canal company chartered by Congress or your construction company?—A. Our construction company. We

had to buy it before we could do anything.

Q. So that has become a part of your plant?-A. A part of our

plant.

Q. And when your contract with the Congressional canal company is executed you get back your \$300,000?—A. The company will undoubtedly have to go out of existence then, as the railroad will be completed and the canal will be completed and there will be no use for it.

Q. Yes, but if it is an exclusive privilege, and your construction company now owns it, suppose the canal were finished to-day, then the question is, you, a different company from the Congressional company, are the proprietors of the exclusive privilege of navigating Lake Nicaragua by steam?—A. Yes.

Q. Now what is going to happen?

Mr. MENOCAL. This exclusive privilege is only for the internal commerce of Nicaragua.

Q. Purely internal commerce ?—A. Yes, the rights of the interoceanic

canal are reserved by Nicaragua.

Q. So that, notwithstanding this exclusive grant for local traffic, the right of the Congressional company to transfer vessels from the Atlantic to the Pacific, and vice versa, would not infringe upon that grant?

—A. Not at all.

Q. Very well, now I understand.

Mr. MILLER. As to our present work, we are sending forward to Nicaragua a large amount of railroad material, and also a complete machine shop capable of building machinery or of repairing it; also a furnace for making cast-iron, as there is no foundry in the republic at all. There is no way of getting a piece of iron without sending up to New York for it, and we need a large amount for the completion of the pier and material for the completion of the railroad. In fact we have three vessels now on the way loaded with material and two more under chaterloaded with coal and railroad iron, everything that is necessary to earry on this work to complete what I have said, the dredging of the harbor and building the railroad, the dredging of the harbor being of the first importance, as we want to get in, and the building of the railroad in order to get into the interior.

Q. And cut off the forest, as I understand you?—A. The two important things which the company found were first, to open the harbor, and second, to build a line of railroad 17 miles in until we struck hard ground or rock. That work is being pushed with great vigor. That is to be finished by early fall. That is substantially the condition of the

work.

Q. How much money has been spent altogether there now in round

numbers !—A. In round numbers from the beginning I suppose about \$3,000,000.

Q. That includes the \$300,000 paid to this local transportation com-

pany !- A. No, not including that; outside of that.

Q. Well, is there money in hand in one company or the other to complete the things that you have already described as in progress !—A. There is money enough in hand or in sight that is subscribed that will

come in in the regular order.

- Q. That is, available assets !- A. Yes, sir, available assets that will complete all the work we have contracted for. I started out with the proposition that we would make no contracts for work beyond what we could see our way clear to pay for. The construction company, I will say, has already taken means to bring into its treasury a million and a half more of money, which will come in unquestionably within the next few months, so that when these two works are completed that we are now at we will go on to the western end of the canal and lay out the work the same way there. All the work that has been done so far in the way of establishing headquarters, houses, shops, and hospitals has been laid out on a scale calculated to be sufficient for the prosecution of the whole work whenever we shall have the money in hand to do it. We think we have not wasted any money at all, and have not done any-thing in a little or petty way. We have started to lay out the work so that when we are in a condition to push it along the whole line our organization will be as complete as that of any army and we can carry it on systematically and thoroughly, protecting all the rights of the company and protecting ourselves against frauds of all kinds. We have a complete police system which I have not mentioned, which we have a right to under the concession. We have to maintain a police force with these various nationalities in order to preserve the peace and take care of our property. In short, the work, I think, has been laid out in the beginning in such a way as to make every dollar count and to put the work in such a condition to push it to a completion at the earliest possible moment whenever the financial arrangement has been made or money sufficient to do the work.
- Q. So that, so far as you have gone, every step that has been taken and all the money that has been expended has been a direct and economical means to the end of actually constructing that canal?—A. That is my judgment about it. It has been done economically, and, so far as we have gone, it has been done below our own estimates for the same work.
- Q. Are you willing to furnish the committee with a copy of the contract between your construction company and the Maritime Canal Company, so that the committee may know what are the relations and reciprocal duties and obligations of the two companies?—A. I should prefer to consult the board of directors in regard to that. I can say, generally, this in regard to it. We have undertaken to construct a canal for the securities of the company which may be issued against it. Some points of that contract are still left open because it has been impossible to determine exactly how much money would be required until we knew more of our own financial schemes, so that we could determine more fully what the securities would bring in the public market; in short, that the Maritime Company should undertake to issue securities enough, which, when sold in the market, would bring money enough to complete the canal. And, whilst the question of financing the whole thing has been going on, the amount that should be issued or the inter-

est that the bonds should bear has been left open for further negotiation.

Q. Are you a director in the Maritime Canal Company?—A. I am not.

Q. You have no connection with that?—A. No connection with it at all.

Q. How much is the capital stock of your construction company, the

Colorado corporation ?—A. Twelve million dollars.

Q. How much has been actually paid in; what percentage of that \$12,000,000 stock has been subscribed?—A. Well, some of that stock was issued to the original association for the work they did in procuring the concession and the moneys which they paid out for the preliminary surveys, which extended over two years of time. Just how much there was of that I am not able to say without going back to the books. The stock of late, \$4,000,000 of it, was issued at 50 cents on the dollar, money actually paid in on it, and more of it, one and a half millions, we expect to issue substantially at par.

Q. How much is now actually outstanding; how many shares of the

\$12,000,000?—A. I think about ten and a half millions is out.

Q. Representing paid-up stock ?-A. Yes.

Q. The Maritime Canal Company you know, by the act of Congress, is required to report once a year to the Secretary of the Interior a full account of all its transactions, so that if it made a full report this contract between itself and your railroad company would appear, and therefore I should suppose it would be proper for us to ask you, and for you to respond, although you do not happen to be a member of that very company, to let us have a copy of the contracts which shows the relations between the Congressional corporation and the Colorado one.—A. Well, I do not think there will be any objection to that, although, as I say, that contract has not been fully completed. It was not at the time of that report.

Q. The sixth section of the act incorporating the Maritime Canal

Company of the 28th of February, 1890, provides:

SEC. 6. Said company shall make a report on the first Monday of December in each year to the Secretary of the Interior, which shall be duly verified on oath by the president and secretary thereof, giving such detailed statement of its affairs, and of its assets and liabilities, as may be required by the Secretary of the Interior, and any willfully false statement so made shall be deemed perjury and punishable as such. And it shall be the duty of the Secretary of the Interior to require such annual statement and to prescribe the form thereof and the particulars to be given thereby.

A. That report was made, but the contract was not fully completed at that time, and in fact it is not fully completed yet, because, as I say, it was left open substantially because on certain conditions we should have to have more securities to build the canal than we should on other conditions.

Q. Now, Mr. Miller, I wish you would tell us about the prospects and plans for raising money and the methods that you yourself can consider as being feasible and how much and all about the future of the finances, how you are to get the money and on how much discount and how much the real cost of the thing is to be and how much in any way you can negotiate securities for, and what will be the outstanding obligations as distinguished from actual money to be paid out for all expenses.—A. The estimate of our chief engineer, Mr. Menocal, is that the actual cost of building the canal, outside of any interest or commissions or anything of that kind, will be in round numbers \$65,000,000. His report and estimates are here presented. When Mr. Menocal's surveys

were completed they were submitted to a board of consulting engineers consisting of five engineers of distinguished ability and character. They went carefully over the estimates of Mr. Menocal, and their report, which is herewith presented, makes an estimate of the total cost in round numbers of \$73,000,000, and then they say that, to cover all possible contingencies of construction, they add 10 per cent., which amounts in round numbers to \$14,000,000. That makes their grand total estimate in round numbers \$87,000,000. As to the correctness of Mr. Menocal's estimate I can say this: Several very skillful contractors, men who have had large experience in building public works, especially railroads in the West, have been over the line of the canal and given a great deal of time to the consideration of the plan and details upon the ground itself, seeing what obstacles they had to overcome and what difficulties there were in the way. One of those contractors, after having made three several visits to Nicaragua, said to me that he would put in a bid for the entire western division of the canal, that is from Lake Nicaragua to the Pacific Ocean, including the harbor at Brito and the three locks on the western side, which bid would be less than our own estimates. I only mention that to give you an idea as to whether the estimates are correct or not. Of course unforescen difficulties may arise and the cost may be increased, but the company, after these two years of examination and consideration, believe that the cost of the canal can never under any circumstances exceed \$100,000,000.

By Mr. PAYNE:

Q. That embraces his estimate for the extras?—A. Yes. Now as to the method of raising this amount of money, of course it can only be done by selling the securities of the company. They consist, or will consist, of stock and bonds. Since I have been president of the Construction Company I have consulted with many leading financial men in the country, and of course it is impossible to say at this time at what price bonds of the company could be negotiated, but I am frank to say that I do not believe that they can be negotiated at par or very near it. This is a peculiar enterprise, which presents many obstacles, and of course it will be looked upon by the investing world as somewhat problematical. The first bonds of the Suez Canal, I believe, netted the company only about 60 cents on the dollar. How much more than that we shall be able to obtain for our bonds I am unable to say, but I have no doubt but what the bonds can be negotiated in the markets of the world at a price much above that of the first Suez bonds.

The present intention of the company is to make arrangements with what would be called a syndicate of bankers, getting one large and reputable banking house to take the lead in the matter, and that house to associate with itself a large number of banking houses in this country and in London and in Amsterdam and in Frankfort and in Berlin—houses which are now in the habit of associating themselves together for the placing of large loans or the placing of a large amount of securities—and expect to make a contract with the leading house, the head of the syndicate, to take these securities and market them as best they can, so as to give us somewheres in the neighborhood, we will say, of ten to fifteen millions of money per annum as the work shall go on.

Banking houses are ready to undertake this work, and the only question about it is a question of commissions and the question as to what price the bonds shall go to the public at in order to induce them to take

them. We can not expect the public will come in and take these bonds unless they are offered to them at such a price as to give them a large profit in case the work succeeds. This project is entirely different from the project of building a railroad and issuing bonds upon it as it is constructed.

The interest on money used upon the construction is a proper charge of the cost of construction as much as the money that goes into iron or into labor or anything else. People who put their money into an enterprise expect the interest will be charged against construction until the work is completed, so that we have to provide not only for the cost of the work as it goes on, but we must provide for the interest on the bonds

until such time as the canal is finished and begins to earn.

We assume that it will take six years to build this canal from the time we have money enough to push it with vigor; that is to say, if we were to have our negotiations completed for the placing of our bonds at the end of this year and could begin to get our money at the next year we should count it would take six years from next January to complete it. If a bond is issued I presume it can not be floated at less than 5 per cent. interest. If we were six years in building the canal there would be three years' interest to pay upon the entire issue of bonds, whatever that might be, and how large that issue will have to be is, of course, dependent upon the price we may obtain for the bonds. The company has hoped that it would get such a price for the bonds as would enable us to pay this interest and pay the cost of construction and give a fair profit to those connected with the enterprise by the issuing of not more than \$150,000,000. Whether that can be done or not I can not say at this time, but I feel very confident that bonds of the company can be marketed, and at such a price as will enable us to complete the canal.

Q. What allowance do you make for the stock?—A. We have not as yet made any calculation upon the stock, holding it in reserve and not issuing it at all unless it should be found necessary. Of course the bonds will go on the markets of the world and they will go wherever the money comes from. This, in short and substantially, is the plan of the

company if it is left to itself.

By Senator Edmunds:

Q. Is that the plan of the Construction Company or of the canal company?—A. That is the plan of the Construction Company. The Construction Company takes these bonds and agrees to negotiate them.

Q. They are to be the bonds of the canal company ?-A. They are to

be the bonds of the canal company entirely.

Q. And you are to float them the best way you can !- A. Yes.

Q. I understand you to say that Mr. Menocal's estimate is \$65,000,0009—A. In round numbers, yes; and the board of consulting engineers went over his figures, taking the same points, and made it \$73,000,000, and then they said, "to cover all possible contingencies we think it wise to add 20 per cent. to that."

Q. That would make \$87,000,000 in round numbers.—A. Yes.

Q. Now, I understand you to say that on the credit system of putting off bonds or stock, or whatever way of doing it, the thing would stand in as a capital or loan on which interest or dividends have to be paid out of the income of the concern when done, would be up toward \$150,000,000?—A. My judgment is that to get that amount of money

we should have to issue at least \$150,000,000 of bonds at 5 per cent interest.

Q. But a positive obligation then, when the thing is done on the credit system by raising a loan, would be in round numbers \$150,000,000?—

A. Yes.

Q. On which interest and finally principal would have to be paid, for an actual expenditure with the 20 per cent. for unforeseen contingencies, of \$87,000.000 f—A. Yes, but in addition to that you must add interest on the bonds during the process of construction. The interest accruing during the process of construction is as legitimate a charge upon the

construction as the building of a lock.

Q. Yes, but it is only interest upon the money that is used that year. So it is not an interest on the \$87,000,000. It takes six years to build it. It is an interest on \$14,000,000 or \$15,000,000 annually?—A. No, it would be the interest upon the entire sum. We will suppose it takes six years to build the canal, and during the six years we issue \$150,000,000 bonds, in equal proportions each year, distributed over the six years. Then it would be three years' interest upon the whole amount. It would be an average of three years.

Q. At 5 per cent.—that is 15 per cent. on \$150,000,000?—A. That would be \$7,500,000 interest for a year on \$150,000,000 at 5 per cent., and three years is \$22,500,000 interest. That is a proper charge, as much as engineering work is a charge. That is the way all financial

operations are carried on.

Q. But then, after all, if your stock in the Maritime Canal Company for this practical purpose—it does not make any difference which we call it—is taken up to the extent of \$87,000,000, the utmost estimate, and allowing 20 per cent. for anything the experts can think of on this \$87,000,000, you are going to pay interest for the three years on \$150,000,000, and in the end you have got the \$150,000,000 to pay. That is the difference between the cash system of positive money and

borrowing, is it not ?- A. That is it exactly.

Q. Very well; that is just what I want to find out. Now tell us, in a general and condensed way, what the outlook is for business, and what you know in respect of the business of the Suez Canal, which is the only thing which can be compared with it !—A. If \$150,000,000 of bonds are issued for the building of this canal the fixed charge upon the revenues of the canal for interest will be \$7,500,000 per annum. It is assumed that the canal can be maintained and operated for \$1,000,000 a year. The cost would be \$8,500,000 per annum for the fixed charges of the canal when completed.

Q. Then you would have to add to that, of course, the salaries and other things, unless they are included !—A. No, they are included in the \$1,000,000; that includes the maintenance; that would be officers

and every repair that might be made.

Q. And all the incidental and all expenses are included in \$1,000,000?—A. Are included in \$1,000,000. As to the earning capacity of the canal the only precedent we have is that of the Suez Canal, which began operations in 1879, and the receipts of the Suez Canal for 1888 were \$12,975,000.

Q. What year did that canal begin its operations.—A. It began in

1879.

Q. Have you got a table that will show it wholly from year to year?—A. I have got it each year.

Q. I wish you would state it. It will be very interesting to come in there.—A. I do not know whether the first year is a full year or not. In 1879 the receipts were \$5,595,000; in 1880, \$7,501,000, which of course was a full year; in 1881, \$9,619,000; in 1882, \$11,346,000; in 1883, \$12,350,000; in 1884, \$12,029,000; in 1885, \$12,422,000; in 1886, \$11,297,000; in 1887, \$11,565,000; in 1888, \$12,975,000. For the year 1889 we have not the report as yet.

By Senator PAYNE:

Q. Now what was the cost of that? Have you got it there?—A. Between \$98,000,000 and \$100,000,000 in round numbers.

By Senator DOLPH:

Q. Have you got anything to show the charges, the rates of toll, and the actual tonnage of the canal—for instance in 1888?

By Senator EDMUNDS:

Q. The tonnage, the expense account, and all that, so as to show the net there?—A. I do not know whether it is all printed here or not. I have got it at home. It will be noticed here that the income fell off a little between and to 1886, and at that time there was a reduction made in the rate of tolls. The rate of tolls was reduced. Then in 1888 they recovered to its highest point. The toll now is \$1.80 per ton.

Q. Is that per ton of measurement or per ton of cargo; probably the registered ton?—A. Yes. The tolls at Suez at the beginning were \$2.50

per ton, and then reduced to \$1.80.

Q. Have you got a table there which shows an increase of tonnage, if there was any, following the reduction of tolls?—A. I have the number of ships and the net tonnage. The first year, 1879, it was 2,263,000 tons; the next year it was 3,057,000; the next year it was 4,136,000; the next year, 1882, it was 5,074,000; in 1883 it was 5,775,000; in 1884 it was 5,871,000; in 1885 it was 6,335,000; in 1886 it was 5,767,000.

Q. That was the year of the Egyptian war?—A. Yes. In 1887 it was

5.903.000: in 1888 it was 6.640.000.

Q. Have you the expenses of operation?

By Senator DOLPH:

Q. Have you the number of vessels ?—A. I have the number of vessels. In 1879 the number of vessels was 1,477; in 1880, 2,226; in 1881, 2,727; in 1882, 3,198; in 1883, 3,307; in 1884, 3,284; in 1885, 3,634; in 1886, 3,100; in 1887, 3,137; in 1888, 3,440. The vessels have increased in size and are fewer there, you see.

By Senator Edmunds:

Q. Now how does the expense account run?—A. The expense account I have here only for one year; that is for 1888. For administration—that means for the officers, \$207,914; for operation, \$521,137; for maintenance and renewals, \$378,007; making a total of \$1,207,058 as against a gross income of \$12,975,315.

Q. Leaving a balance of apparent net of how much ?-A. The net re-

ceipts, \$11,678,257, for the year 1888.

By Senator PAYNE:

Q. Now according to your judgment, Mr. Miller, how would the business of this canal compare with that of your canal?

Senator Dolph. If you will excuse me for a moment, does that item for operation include the expense of towage; are they sail vessels that navigate the canal?

Senator Edmunds. There are very few, but there are some. I sup-

pose there is an additional charge for towing?

Mr. MILLER. Certainly. A sail vessel going through there would have to pay for its towage just as it does in a harbor elsewhere.

By Senator EDMUNDS:

Q. Now give us your calculation as to what the Nicaragua Canal would have to do and the business it would accomplish !—A. The first estimate made of what the probable business of the canal would be was made at the Paris conference in 1879, which De Lesseps called for the consideration of this question. At that conference I believe the tonnage then estimated that would pass through that canal was 5,000,000 tons.

Q. That is the Panama Canal !—A. I think their estimate, taking the commerce of the world, that would be tributary to the canal—that was estimated at the beginning would be about 5,000,000 tons per annum. The exact figures I have not here, but I can get them and send them to

you.

Q. I wish you would. Do you know what the comparative distance is between London and Paris and Havre, all that region of Great Britain, Liverpool, London, Bristol, Havre, Gibraltar, and all the British Channel ports to Japan and China going by Suez compared to the distance going by the Nicaragua Caual when it is done and perfectly complete to carry ships that wish to go?—A. Well, I have got all of that. I referred to it generally. I have right here the estimate of what the business of the Panama Canal would be in 1879. It amounted to 4,570,000 tons, and it is made up of the trade that was then known to exist, the trade that was then going around the Horn and would naturally go by this route if open, and in this document, which I will leave, is given the nationality of the trade—where it would go. In 1879 it was estimated at 4,570,000 tons, and taking this percentage of increase previous to that time and giving the percentage now, it is estimated at the present time the trade that would seek this line is, in round numbers, 7,000,000 tons per annum.

By Senator DOLPH:

Q. A large proportion of that must be sailing vessels.—A. That is very largely sailing vessels now, undoubtedly, but undoubtedly it would very rapidly change into steam vessels when the canal was completed.

Q. Have you a statement of our commerce upon the Pacific coast estimated from the number of ships or tonnage?—A. Not since 1879,

but I can get it and send it to you.

Q. Oh, it is not material. I do not care about it.—A. It is believed that the business will largely increase between the west coast of the United States and the Atlantic coast; that a very large growth of business will take place from Puget Sound, which is to-day the greatest lumber region of the world, and that the lumber from Puget Sound which does not go into the Atlantic Ocean at all will find an immense trade the moment it is open. Now it goes to the west instead, to China and Japan, and it is said they have the largest forests in the world from which the world must draw its supplies. What that growth of commerce will be it is impossible to accurately estimate. The people

upon the Pacific coast and in California and in Puget Sound believe that in five years the trade will more than double.

By Senator Edmunds:

Q. What rate of tonnage do you think that kind of commerce, of the cheapest and most bulky materials like lumber, etc., could bear for the advantage of going through the Nicaragua Canal? By tonnage I mean tolls, of course.—A. Well, the concession from Nicaragua allows the canal company a maximum of charge of \$2.50 per ton, the same as the Suez Canal in the start had. Between New York and the Pacific coast the saving by this route between New York and San Francisco is, in round numbers, 10,000 miles.

By Senator Dolph:

Q. Two dollars and fifty cents per ton on a thousand-ton ship would be \$2,500 toll ?-A. Yes.

Q. What would be the probable cost of towage of a sailing vessel?— A. Well, it is estimated a vessel will pass through the canal in twentyfour to thirty hours. A sailing vessel will be towed by a good vessel—

one tug would take two in probably about thirty hours.

Q. Could they navigate at night ?—A. Oh, yes; of course. The larger part of the distance is in the open water, in the lake and in the river, and of course that will all be lighted perfectly so that it can be navigated in the night as well as in the day. The ordinary cost of chartering a tugboat of that kind in New York Harbor, one large enough to do that, would be not to exceed \$40 a day.

By Senator PAYNE:

Q. What is the length of the Suez Canal ?—A. Ninety-eight miles.

Q. And yours is how much ?—A. The entire distance across Nicaragua is 170 miles, but there are only 27 miles of it canal; the rest of it is river and lake navigation—that is, open navigation through which you can go at fair speed, and vessels can pass each other.

By Senator Edmunds:

Q. Well, \$2,500 for 1,000 tons, carrying lumber for instance from Puget Sound to New York, how many thousand feet, board measure, of lumber would a thousand-ton vessel carry ?—A. I could not give you the figures without going to the books to see what the weight is, but we are chartering vessels all the while to carry lumber, building our shops and our pier, and they carry from 350,000 to 500,000 feet, board measure, and we are paying about \$5,000 freight from New York to Greytown, a distance of 2,000 miles, for sailing vessels.

Q. You pay \$5,000 for carrying 350,000 feet of lumber ?-A. Yes.

Q. What is the tonnage of vessels carrying 350,000?—A. About 600 tons. And that is not an excessive freight at all. That freight is very That is the cost of the freight. Now, if you were to send that vessel around the Horn-the distance from New York to Greytown is

only 2,000 miles-

Q. Yes, but the thing I want to get at is this: Take Puget Sound lumber, which I will assume laid on board a vessel of 1,000 tons at Seattle and contains 500,000 feet is at a cost of \$10,000. Now, then, the question is, how much that 500,000 feet of lumber has got to pay to get through that canal per thousand feet; how much the cost to whoever owns it would be enhanced to the people who could buy and sell it, so as to see

S. Doc. 231, pt 4—23

whether the lumber trade of Puget Sound could stand a tax of that amount of money—\$2,500 on 500,000 feet of lumber—to go through that canal? That is what I want to get at, because you say you expect this to be a part of your expected traffic.—A. Well, you misunderstood me there. That is no part of our estimated traffic. The traffic we have estimated on is a traffic we know to exist. That is simply prospective. It is no part of the estimate that was made in 1879 of the traffic that would go through the Panama Canal, and it is no part of the 7,000,000 tons we have estimated to now exist, because that traffic does not exist. We simply speak of that as a prospective growth of trade.

Q. And the traffic you have already calculated on is the traffic with China, Siam, etc., composed of silks and spices and coffee and tea and so on ?—A. No; that does not go around Cape Horn, and therefore we

have not estimated it.

Q. Exactly what I want to get at is whether the lumber trade of Puget Sound could stand a tonnage of \$2.50 a ton for 500,000 feet of lumber; whether it could go through and still find a market !—A. I understand your question, and I think I had better not endeavor to make any arithmetic answer to it here, but I will take that problem

home and have it worked out.

Q. Well, just take hold of it and have it worked out.—A. Yes, I understand just exactly what it is. As a partial answer I simply referred you to what it cost to send a vessel of 600 tons from New York to Greytown carrying 350,000, board measure, at a freight of \$5,000. I simply threw that out as a statement. I will have the computation made showing exactly the difference between sailing around the Horn or coming across as to the amount that would be spent in freight, and I will also take up the question of moving wheat from California to Liverpool that now goes around the Horn. I will have those figured out accurately and send them over to you, so that it can go with this statement.

Q. Is there anything else you think of to state !—A. I do not know as

there is. I am willing to answer any questions.

Q. One other question Mr. Evarts has suggested. In your looking forward to raising the means to carry on this enterprise, where do you and your friends expect that this money is to come from; from citizens of the United States or from citizens of other countries ?- A. We expect it will come from the whole world if we put out our bonds, and my judgment is that the bulk of the money will come from abroad, where all of our great enterprises go. Our people are very much interested in this whole question. I can say that, being at the head, the president of the company, we are getting a great many inquiries from all over the United States in regard to the undertaking, and the whole newspaper press of the country has taken it up and shown great interest in it; but we are getting to hear a great many inquiries from financial people in Europe. They are coming direct and sometimes coming through their agents in New York, who are constantly coming to us for information as to this enterprise, as to what it proposes to do and what its financial plan is.

By Senator PAYNE:

Q. Practically you will have to negotiate with a large house in New York or London and they will coöperate in forming a grand syndicate.

By Senator Edmunds:

Q. Yes, but suppose that at the end of ten years from to-day the canal is done and \$150,000,000 are out to have accomplished it, where do you think, from your knowledge of all these transactions and the ways of human affairs, these bonds when the thing is done at the end of this ten years will be? Will they be held chiefly by the people of the United States or chiefly by the people of some other countries?—A. I think at least two-thirds of them will be in Europe.

Q. Have you described on what length of time you expect these bonds to be put out ?—A. I have said nothing about that, and that is one of the questions between the two companies that is still open—that

has not been decided-what the length of the bonds should be.

Q. Well, what do you think yourself?—A. I think it will not be less than fifty years and it may be even longer than that. I do not know whether the proposition has been much discussed of making them ninety nine years or not.

STATEMENT OF CHIEF ENGINEER A. G. MENOCAL

By Senator EDMUNDS:

Q. What is your present relation to the maritime canal across the Isthmus of Panama?—A. I am chief engineer of the Nicaragua Canal Construction Company.

Q. Have you been connected with the previous surveys of the Isthmus!—A. I have been connected with all the surveys that have been

made in Nicaragua since 1872.

Q. Will you explain to us, in a brief and condensed way in view of what Mr. Miller has already said, what the present state of your operations there is, what you have actually done in respect of final location and work upon that final location, and the prospective work that is to be done, so that we can see at a glance, in view of these maps that have been presented, just how far you have got on?—A. The proposed Nicaragua Canal is the result of many years of explorations and surveys conducted under the auspices of the United States Government and of private parties, and of exhaustive surveys made by a numerous and well organized corps of competent engineers of the Nicaragua Canal Construction Company, from December, 1887, to the present date, for the final location of the route and careful examinations and studies of all the work required for the completion of the canal from the Atlantic to the Pacific. No problem has been left unsolved, and all doubtful elements may be regarded as eliminated.

The canal as finally located lies in the lowest depression of land in the Cordilleras, between the Arctic Ocean and Cape Horn, and traverses a salubrious and fertile country, rich in natural resources and capable of great development. Lake Nicaragua, a large inland sea of fresh water, and its outlet, the river San Juan, occupy a large area of this depression. The surface of the lake is 110 feet above the sea-level and its western border is less than 12 miles from the Pacific coast, from which it is separated by a low divide of 42 feet above the lake-level. The lake is 100 miles in length, has an average width of about 45 miles,

and a variable depth, reaching in some places 165 feet.

The proposed canal extends from the harbor of San Juan del Norte (Greytown) on the Caribbean Sea to Brito on the Pacific. The total distance from ocean to ocean by sailing line through canal and lake is 169.45 miles, of which but 26.78 miles will be wholly in excavation, the other 142.67 miles being through Lake Nicaragua, the San Juan River, and artificial basins. Of the latter distance, 102 miles will have a depth of 30 feet or more, requiring neither dredging nor excavation.

The lake is the main feeder and the summit level of the canal. It is connected with the Pacific Ocean by 11.40 miles of canal in excavation

and 5.27 miles of artificial basin created in the valley of Tola by the construction of a dam across a narrow gorge of the valley, 3 miles dis-

tant from the Pacific coast.

From the lake eastwards the canal follows the river San Juan for a distance of 641 miles to Ochoa, where by the construction of a dam across the river the surface of the water is raised 55 feet and slackwater navigation secured along that distance, converting that portion of the river into an extension of the lake. Just above the dam the canal leaves the bed of the river and enters into a chain of artificial basins formed by the construction of a series of dams and embank. ments and short cuts, confining and connecting adjacent valleys for a distance of about 12 miles to the western end of the great divide cut. The heaviest work in the whole line is now encountered in crossing the divide separating the valleys of the San Francisco and Deseado Creeks, where nearly 11,000,000 of cubic yards of rock and earth excavation are concentrated in a distance of 23 miles. However, the rock is hard and homogeneous, there are ample natural facilities for doing the work; the rock is needed for the construction of breakwaters, locks, dams, embankments, etc., and if not found in that favorable center of distribution it would have to be quarried at other places.

Easterly of the divide cut there is another artificial basin about 5 miles long formed by the construction of a dam across the valley of the Deseado, and thence 12 miles of canal in excavation extending to the harbor of Greytown, of which nearly 10 miles will be at the level of

the sea.

The summit level of the canal extends from the western end of the basin of Tola to the eastern end of the Deseado basin, a distance of 154 miles. It has been stated that this upper level is 110 feet above the sea-level. This elevation is proposed to be overcome by six locks, three on the Atlantic and three on the Pacific slopes—the lifts of these locks varying from a maximum of 45 feet to a minimum of 25 feet, their uniform length being 650 feet and the width 80 feet.

The harbors of Greytown and Brito need to be enlarged and improved by the construction of breakwaters and by dredging, but the works

required present no serious engineering difficulties.

With the exception of the rock cuts in the eastern and western divides, the canal prism will be at all points wide enough for two ships to travel in opposite directions, and its least depth will be 30 feet. In the lake, the river San Juan, and the artificial basins vessels can travel with entire freedom.

The computed quantities of excavations, embankments, and fills, as determined by a careful location of the entire route, study of all accessory works, and borings to the depth of necessary cuttings, are as follows:

Dredging below sea-level Earth excavation above sea-level Rock excavation Rock excavation under water	21,773,810 13,452,938
Total excavation, earth and rock	4, 033, 810 6, 105, 380 202, 641

It is estimated that the canal can be completed in seven years, of which one year will be consumed in preliminary work.

The estimated cost of construction of the whole canal and the two

harbors is \$65,000,000. This estimate has been revised by a board of consulting engineers, who, after allowing a large percentage for possible and remote contingencies, have fixed the total cost of the work at \$87,000,000, exclusive of commissions, banking, and interest during the time of construction.

The capacity of the canal for traffic is estimated at 32 vessels per day, or 11,680 in one year; which, based on the average tonnage of vessels passing through the Suez Canal, will give an annual capacity for traffic of over 20,000,000 tons. By passing more than one vessel in each lockage, the above estimated capacity may be largely increased. The present traffic of the Suez Canal is about 3,500 vessels, with a tonnage of about 7,000,000 tons annually.

The water required for thirty two lockages in one day is 127,400,000 cubic feet, while the lowest flow of the lake in the dry season is 11,930 cubic feet per second, or in one day 1,272,530,600 cubic feet; consequently the lake supply alone is ten times the maximum needed for the

operations of the canal.

The time consumed in passing from ocean to ocean by steamer is estimated at twenty-eight hours, which includes one hour and twenty

minutes for possible detention in narrow, rocky cuts.

The business of the canal at the time of its proposed completion in 1897, based on reliable statistic information, is estimated at 7,000,000, of which more than half will be between ports of the United States, or the United States and other countries; but the natural growth and development of the Pacific States and Territories, greatly promoted and materially increased by the opening of the canal, will add millions of tons of traffic to the canal which present information fails to show.

WORK ACCOMPLISHED.

From December 1887 to June 1890, the Nicarauga Canal Construction Company had a numerous corps of engineers constantly employed exploring all possible routes, and making a careful survey of the one finally selected as possessing the greatest facilities, with the least doubtful problems, for the construction of the canal. More than

\$300,000 were expended in these surveys.

The first expedition for construction left New York on the 25th of May, 1889, and on the 3d of June landed at the proposed entrance to the canal from the Caribbean Sea, near Greytown, on a sandy uninhabited coast, without harbor or shelter from the elements, with no means of communication along the line of the canal except through tortuous and much obstructed streams, some of which could not float a loaded canoe, and depending altogether on a base of supplies for materials for construction and subsistence 2,000 miles distant, with only one line of steamers touching on that coast, and two weeks distant from the nearest telegraph station.

The first work of the pioneers of the great enterprise was necessarily one of self preservation. Rude temporary shelters had to be improvised for the protection of men and stores while more permanent buildings could be erected; means of transportation along the route of the canal through deep and extensive swamps and virgin forests had to be provided for, and telegraph communication to the nearest station, more than one hundred miles from the coast, and connecting the various camps about to be established with the base of operations, was felt from the start to be an indispensable adjunct in prosecuting the work. Under these conditions, aggravated by an insufficient supply of an in-

ferior class of labor, the first operations were difficult, tedious, and expensive, and it was not until the month of October following that the most indispensable elements for the organization of the various departments and distribution of the working forces had been created and the preliminary work of construction could be said to have commenced.

The opening of an entrance into what used to be the Bay of Greytown, now converted into a fresh-water lagoon, was recognized from the start to be an indispensable requisite in the prosecution of the work of excavating the canal. Ships now anchor about 2 miles off shore, and machinery and other supplies are brought ashore in lighters, through a shifting entrance and dangerous bar with a variable depth, never exceeding 6 feet. This method of landing supplies involves considerable risk and expense, and is altogether inadequate for the discharge of the

heavy machinery required.

The company, therefore, has spared no effort in obtaining an entrance from the sea into the bay, and the construction of the breakwater required to arrest the shifting sand and protect the dredged channel was one of the first works undertaken by the company, and pushed ahead with all possible dispatch. This pier is now about 700 feet long, its outer end being in 12 feet of water, and so far has fulfilled, even beyond expectations, all that was expected to be accomplished by its construction. It affords now sufficient protection to the dredges excavating the channel, and the company has already made a contract for the excavation of the entrance and inner bay to a depth of 20 feet. Some of the dredges are on the way to Nicaragua and others are in process of construction and will soon leave for Greytown. It is expected, therefore, that within the next five months vessels drawing 15 or 20 feet may be able to enter the bay and discharge their freight directly on the wharves of the company.

Heavy machinery suitable for the work can then be safely landed, the work of preparation may be said to have been completed, and ac-

tive operations can be undertaken along the whole route.

While prosecuting the harbor work the company has also established permanent quarters, erected large store houses, hospitals, dwellings, shops, and other buildings. It has accumulated the necessary material for the construction of an aqueduct 13 miles in length (work on which is now actively pushed), which is to supply Greytown, the works on the eastern section of the canal, the harbor, and the company's headquarters with fresh water from the mountains. It has erected wharves and warehouses for the receipt and storage of supplies. Parts of the San Juanillo, Deseado, San Francisco, and other streams have been cleared of obstructions and made navigable for small crafts, and several miles of the route of the canal between the harbor and lock No. 1 have been grubbed and cleared and made ready for dredging.

The company has built about 2 miles of broad-gauge railroad and about 70 miles of telegraph and telephone lines, and has landed at Greytown large quantities of machinery, tools, lumber, piles, creosoted timber, boats, steam-tugs, and launches, lighters, pile-drivers, and other materials and equipment necessary for the harbor and canal work. Large quantities of railroad supplies, locomotives, and steam excavators are now at Greytown, and a contract has been let for the construction of 17 miles of railroad from Greytown to the eastern divide cut, work on which has already been commenced. The company has also spent large sums of money for engineering work in locating railroads and in making final plans and detailed surveys of the canal, the harbors, locks, and

other accessory works, and, in short, it may be safely said that the whole work is being pushed forward as rapidly as the circumstances and

condition of the country permit.

There are now six engineering parties in the field, in addition to those engaged in the harbor and railroad construction, making detailed surveys and geological examinations of the sites of the dams and embankments and of the locks; so that the company may be able at any time to let the contract for those works simultaneously with that of excavating the canal.

The administration and medical departments as now organized and equipped are capable of rapid enlargement and efficient work, and there is every reason to believe that if the work on construction is prosecuted without interruption the canal will be opened to traffic within the six

years intimated for its construction.

Q. How many years ago were you first there !-- A. My first trip to

Nicaragua was in March, 1872.

Q. How many times have you been there since; in how many different years !—A. 1872, '73, '74, '76, '77, '80, '85, '87, '89, and '90. the number of trips I have made.

Q. In all that time how many months altogether, in round numbers, have you spent there ?-A. It may be estimated that I have been there

no less than four and a half years' time continuously.

Q. Have you been there, taking it all things together, in all seasons of the year !- A. In all seasons of the year.

Q. How was your health affected by it ?-A. It was always better.

I have never been injuriously affected by the climate.

Q. What has been your observation, then, as to the Northern people and others you have employed, as to the salubrity of that climate?-A. In these expeditions in which I have been engaged, in the surveys both of the east and the west side, I have always had a large number of employés, most all Americans, with perhaps a dozen natives in each party, engaged in cutting brush and clearing the way for the engineers, and we have never lost a man, or I never had a man more than two days in camp on account of diseases contracted in the country.

Q. What do you think, then, in respect of any extraordinary danger to Northern white men in carrying on the operations of that canal!-A. I anticipate no danger whatever. So strong is this feeling that I have two of my sons there now engaged in the construction of the work.

Q. How much is the rise and fall of Lake Nicaragua in its present natural condition from extreme high water to extreme low water?-A. From 2½ to 5 feet. We propose to retain the level of the lake at 110 feet.

Q. How much will that swell it above its lowest natural condition?—

A. Six and a half feet.

Q. So that that will carry it up to a height of 2 or 3 feet above its ordinary tide-water?—A. Yes, but 110 feet is not above the highest water-mark by any means.

Q. Will it carry it up where it will kill trees, make the shores as an overflowed land that is never now covered ?—A. No, sir. I would not say never, for sometimes the water reaches an elevation above 112 feet.

Q. So that your highest point of elevation artificially made will not exceed what sometimes the highest natural water is ?-A. No, sir.

Mr. MILLER. I have an idea that it has been over 112 feet.

Mr. MENOCAL. Yes.

By Senator Edmunds:

Q. What is the nature of the country there as to dry land or swamp!

—A. On the south side it is swampy. The west coast is solid land. The extreme northern end is swampy for a very short distance and on the east side is solid elevated land.

Q. So that really the only swampy shores are near the outlet at the very head?—A. Yes, that is just it, and where Lake Managua enters and empties into Lake Nicaragua. There is a kind of a low-land there.

Q. How many square miles of that low-land is there where the outlet

of Lake Managua is?-A. I would not like to state.

Q. Oh, state in round numbers what you think.—A. Well, I think 15 or 20 miles.

Q. Fifteen or 20 square miles?—A. Yes.

Q. How much of the low end or south end of the lake—how far on either side is it swamp?—A. Well, the south end I never visited. On the north side there would be no inundation; on the east side near the outlet it may be a half a mile to 2 miles. It is flooded, however, in the rainy season.

Q. So that your permanent elevation, 110 feet, raising the water 3 or 4 feet above its present point, would not materially affect the surrounding country?—A. On the contrary, I think it would be healthy, for the reason that these low lands would be permanently covered, instead of

being alternately covered wet and dry as now.

Q. What, in your opinion, is the most difficult engineering, practical problem as to an effective canal there?—A. I do not know that there is anything very difficult. I do not see any serious difficulty on the whole route.

Q. Yes, but you have spoken of the engineering difficulties being now practically solved, but referring to them as some being greater than others.—A. Well, there are some difficulties that have to be overcome.

Q. Where is the greatest difficulty?—A. The greatest difficulties I should say are in the construction of the dam across the river San Juan and the construction of certain dams and embankments upon the San

Francisco Valley.

- Q. Is that San Francisco, containing a part of the water that comes out of the lake, a separate and independent river?—A. No, sir; it is a valley intended to be closed by dams and embankments and converted into a lake, and there is another valley here emptying through a narrow gorge into the broad valley of the San Juan, and that is also closed. Now these two valleys are separated by a ridge through which is cut a canal. Consequently you have so many miles of canal navigation through this deep basin without any excavation, except what is required to combine or connect these two valleys. Now, in raising the waters by the construction of the dam across the San Juan 55 feet the upper part of the river is converted into an extension of the lake, and that same level is continued through these different valleys and through the deep cut and beyond through a basin 5 miles long towards the Atlantic and east of the deep cut, made in the same way by the construction of another dam. Consequently the summit level extends from the easterly end of this latter basin to the westerly end of the Tola basin, west of the lake.
 - Q. That is, it extends how many miles from the Atlantic!—A. From

within 12 miles of the Atlantic to 3 miles of the Pacific.

Q. You get the lake-level that whole distance?—A. Yes. It is not quite the lake-level. We call it level for all practical purposes of navigation, but of course the river San Juan must have a fall, and that fall

is estimated at three fourths of an inch to the mile, or about 4 feet for the 641 miles of slack-water navigation.

Q. But between those two points there are no locks at all!—A. No

locks; no, sir.

Q. Now you have spoken of the San Francisco River and of these basins that you make towards the Atlantic from this big dam?—A. Yes.

Q. Now, where does the water come from, from which you make these

lakes?—A. It comes from tributaries of the San Juan.

Q. How are those dams here towards the Atlantic to affect, by making permanent water in those valleys, the health of that region, and how much of the flow that is not necessary for the purposes of canal navigation ?-A. It will make the region healthy because it will flood all the lowlands and the water will come to the slope of these steep hills on the sides of the valley.

Q. Take the valley of the San Francisco, which you have spoken of as a tributary of the San Juan-you are building your dams therehow far up the valley of the San Francisco will that water level go?-A. It will go for about 6 or 7 miles beyond the axis of the canal, and

in a valley, almost a level plain,

Q. How wide is that plain?—A. About 6 miles in width and about 5

miles in breadth.

Q. What is this plain now that is to be flooded; are farms and people there?—A. No, sir; not at all. It is most all swampy.

Q. Heavy swamp forests?—A. Yes, enormous forests. Q. What kind of timber?—A. Well, the timber resembles very much the white oak of this country. Q. Very large trees ?- A. Very large trees, and generally heavy tim-

ber, but not very good for construction purposes. Q. Well, that flow going there permanently will destroy all that !-

A. Yes.

Q. And in the end it will be a sheet of open water?—A. Yes.

Q. Which will be in the San Francisco 5 or 6 miles long and 6 or 8 wide !-A. Yes, I have estimated about 3,000 feet of grubbing and clearing as sufficient for the free navigation and anchorage of ships.

Q. Now, as to these artificial lakes that we are speaking of of the San Francisco Valley, are they supplied solely by the waters of the San Fran-

cisco River ?-A. They are supplied solely by it; yes.

Q. Suppose the San Francisco River does not furnish sufficient water !-A. The basins will be supplied from the San Juan River.

Q. Then they would be supplied besides what the San Francisco

furnished from the lake above and the river?—A. Yes.

- Q. Now, with that area of surface in this San Francisco Valley is your canal, after evaporation, etc., going to be large enough to keep the level up there without having a tremendous current through it?—A. Yes,
- Q. Have you calculated all that !-A. Yes; the current in the canal will never exceed half a mile an hour. The size of the canal will be so proportioned that the current will be small.

Q. What is the dry season of the year there ?—A. On the west side

it is from November to May.

Q. On the east side, of which we are now speaking ?-- A. Well, there is no dry season except, perhaps, January to May, but it is not a dry season as it is on the west side, because it rains more or less on the east side at all times of the year.

Q. What is the average rain-fall during the year on the east side?—A. I should say that it is not less than 150 inches.

Q. And falling more or less every month of the year ?—A. Yes, dis-

tributed through the whole year.

Q. Now take the San Francisco of which we have spoken, and does it not happen that sometimes there is a tremendous flood there?—A. Not a tremendous flood, because the water-shed of the San Francisco Valley is only 85 square miles, and sufficient waste-weirs have been

provided for the discharge of the surplus waters.

Q. So you think that in the most tremendous storms that this artificial lake that you are to construct, taking in the San Francisco valley would not get so high as to disturb the canal operations? A. No, sir not at all. The water is always kept about the same level. As soon as the water rises it flows over these spillways [indicating] and is discharged over here.

Q. Since you have been there, in all these years have you had or known of any accurate observations made of the state of the water in the San Juan as regards its rise and fall from day to day?—A. No, sir; not continuous observations. We had observations from 1887 to 1888, showing the rise and fall of the river, but it has not been kept since.

Q. How much did it show that time?—A. We have had rises there

of 12 feet.

Q. How would a rise of 12 feet affect your canal operations?—A. Well, it may raise the water in this portion of the canal extending from above the dam to lock number three, on the east side, probably 1½ feet to 3 feet, no more, because we have waste-weirs to provide for these sudden rises of the San Juan River.

Q. But where the river at the utmost has risen according to the observations taken you say the lake itself has only risen 5 or 6 feet?—A. Yes; because there is at present a fall of about 45 or 50 feet in that

portion of the river.

Q. How far inland from your harbor at Greytown is this first dam to

be built?—A. It is 32 miles.

Q. Now that is your lowest dam on the San Juan?—A. Yes, sir;

that is the only dam in that river.

Q. What is the nature of each shore at that place where you propose to build that dam, I mean its geological and topographical formation?—A. The top is red clay, below is rock, and the bottom of the river is either rock or very compact gravel.

Q. What is the width of the river there from shore to shore?—A. At

the present time, 900 feet.

Q. What is its depth where you propose to have the dam?—A. The maximum depth is 14 feet near the right bank, gradually decreasing to about a foot and a half at the other bank.

Q. No rock there !—A. There is rock projecting out on both banks

from the abutments of the dam.

Q. That appear above the surface now ?—A. Yes.

Q. So that you have a secure termination at either end of the dam?—

Q. What kind of a dam do you propose to build there?—A. I have proposed to build a rock-fill dam; that is, a dam made of rock dumped in the river and allow it to take its natural slope. The work of distributing the material will be done by the force of the water and its scouring action on the bottom until the proper equilibrium is established. In this way I expect that the company would have a very cheap and safe dam.

Q. Well, having got your rocks in in that way, how can you make a dam tight?—A. We have so much surplus water that I do not think we will make any efforts to make the dam tight, but if it was required to make it tight, all we have to do is to make a deposit of sand, clay, and other material on the upper slope of the dam.

Q. Do I understand you to mean by a rock-fill dam that way that you merely dump rocks right across; tumble them right in !—A. Yes, rocks

weighing a ton or more.

Q. Precisely; but in respect to a structure, ashler or joints, or anything of that kind, you do not do it?—A. No, sir; that I would not regard safe. I regard this as entirely safe.

Q. And you expect to put the rocks in close enough together to produce the elevation you require?—A. We can do that by means of the

wire-rope system.

Q. You then there really make a little cataract of bowlders that you

put in !-A. That is so.

Q. Is that so of all your other dams !-A. All are expected to be

made the same way.

Q. So that, as regards the construction of what in New England we would call a dam of the component and jointed work there of timber or stone there is nothing of the kind required.—A. Nothing at all. I had originally proposed to have these dams built of concrete and ashler, but afterwards I came to the conclusion that this was the safest dam, one that can not be carried away by floods nor affected by earthquakes, which, if anything, would make it more compact. Suppose we had a tremendous storm and extraordinary flood, it might carry a few rocks from the top away, but the rocks won't float; they must lay somewhere on the lower slope. The top of the dam might be lowered a few feet, but the main body of the dam will remain intact and we could repair the damage done by dumping more rock on the crest.

Mr. MILLER. It is simply an immense weight.

Mr. MENOCAL. It is an artificial mountain across the river.

By Senator EDMUNDS.

Q. The dam he proposes is what nature has done in a good many other places. You have spoken of earthquakes, which is an interesting subject to a good many people as regards the stability of such work. You have been down there a good many years, how many earthquakes have you experienced?—A. I never experienced but one or two, and they were so slight as to be of no consequence.

Q. How recent in history has there been any earthquake in that region of country that has overthrown houses, etc.?—A. Not any that I know of, except that the tower of a church and some houses have

been slightly cracked.

Q. How long ago were these !—A. In 1845, in the town of Rivas, the church steeple fell.

Q. Where is that ?-A. Rivas is about 3 or 4 miles from the line of

the canal west of the lake.

Q. How long do you estimate the time that will be necessarily occupied in completing, with adequate funds, the canal ?—A. I think one year for preliminary operations and six years, hard work will be sufficient to complete the work.

Q. So that, adequate funds and management being provided, you think it would be safe to say that the canal would be completely done and ready for occupation in eight years, making due allowance for contingencies?—A. Yes.

Q. So that you feel confident that within this century, which is ten years, with adequate funds and management, it would be a moral certainty that the canal would be in operation. Now, tell me about the nature of the country between the northwest side of the lake down to Brito; it is within only about 12 miles from the Pacific, and a descent in round numbers of 110 feet?—A. The country is comparatively a level country, what you might call a slightly rolling country, and it is most all open to cultivation. It is very fertile.

Q. Inhabited ?—A. Inhabited, with fair roads for carts.

Q. And ranches, haciendas, and what we call farms, and all that sort

of thing !-A. Very beautiful, yes.

Q. Well, does the canal open on some valleys, or is it a direct cut? A. It goes from valley to valley. It goes from the valley of the river Lajas, which empties into the lake, into another valley of smaller size, and then after crossing the divide into the valley of the Rio Grande where an artificial basin is to be made, and from there to the Pacific it might be said it follows the valley of the Rio Grande.

Q. Now beginning at the lake, how far, following the canal line, is it to the absolutely highest point of the crest of the divide as nature now

is?-A. It is 7 miles.

Q. There, then, on that side would be your deepest cut?—A. Yes.

Q. What would be the depth of that cut?—A. Seventy-two feet to the bottom of the canal.

Q. And how long ?-A. That depth would be only at one point.

Q. Well say take it for 2 miles ?-A. That deep cut is altogether 9 miles long.

Q. What would be the average depth of that?—A. I should say the average depth is about 18 feet above water level.

Q. What sort of material ?—A. The material is mostly of rock, covered by 10 or 15 feet of clay or gravel.

Q. Then you would have on an average of about how much depth of rock cutting for that 9 miles ?—A. The rock cutting would be about 35 to 40, average.

Q. What is the nature of that rock?—A. It is trap-rock. It is a volcanic rock, easily blasted, and at the same time very good for con-

struction purposes.

Q. Capable of resisting water so it can be used for construction!

A. Yes. It is very well adapted for concrete work.

Q. Does it come out in forms capable of using for masonry?—A. It is strong enough, but very difficult to cut. It is very hard to be cut and dressed. We use it in concrete.

Q. Then you expect to feed your western canal from the lake itself?

Q. But you have three locks !-A. Three locks; yes, sir.

Q. And they are to cover altogether 110 feet rise?—A. Yes. There will be two locks with 85 feet, 421 feet to the lock.

Q. That is a tremendous pressure. Those locks you would have to build of good masonry?—A. No: I propose to build them of concrete.

Q. By concrete you mean to take this stone that comes out of your rock cutting for your stone, and then you break that up into pieces of what average size?-A. Not more than 3 inches.

Q. And then you put that in with cement?-A. Cement and sand

mixed into mortar, and then ram it in layers.

Q. Have you got any drawings or anything now that would show your proposed method of the construction of those locks ?-A. My report is complete so far as a report of that kind can be. It does not contain the specifications of every piece of work, as that would make it too voluminous, but contains a general description of the works.

Q. Tell me in a general way, now, as to the strength of these locks. You have one that has a head of $42\frac{1}{2}$ feet, and you are going to make

that dam, as I will call it, at the foot of the lake !- A. Gates.

Q. Not only gates, but you have got to have side walls and one thing or another. Now, then, to make this part of the work that has got to stand the pressure of 42½ feet head of water, what would be the size of a cross-section of your concrete?—A. That depends a good deal on what is back of the concrete. We always try to get a hill for the excavation of a lock. If the excavation is rock you will understand it does not require very much masonry wall, because the rock itself back of the concrete will hold it. On the other hand, if we have softer material then you will have to proportion the concrete to the material backing the wall.

Q. That is to say, you undertake to fortify all the lower side with

concrete !- A. Yes.

Q. Do you mean you are going to make your lock, like Sault Ste. Marie, for instance, all concrete?—A. All concrete lined with timber.

Q. So that the whole stone structure will be concrete?—A. Yes.

Q. Just a simple mass of homogeneous concrete !- A. Yes.

Q. Without any joints or anything else !- A. Yes.

Q. What is the nature of the bottom there where you have the foun dation?—A. Rock. Most all excavation for locks will be in rock so much so that we expect to save a good deal by cutting the lock into the solid rock and then line the excavation with large timber.

Q. So that you think the mechanical problem of resisting the pressure of the weight of water by this concrete work instead of the enormous masonry we have in locks north can be entirely overcome? A.

Yes.

Q. Well, when you have got down then to the sea-level at Brito, what sort of a harbor, or what is the contour of land there; what have you to do on the Brito side to make shelter for vessels?—A. On the Brito side we have practically to build a harbor. I would not say we have to improve what we have, but practically we have to build one, but the physical conditions are favorable for the construction of this harbor.

Q. Have you a plan of the harbor !-- A. I have not with me, but will

send it to you with pleasure.

Q. I wish you would do so.—A. Now, I will explain this [indicating on map]. This is the Brito side. The coast comes just on the edge of that dark spot. What we propose to excavate is either side of the high-water mark. This is the high-water mark. We propose to dredge all this out in order to make a harbor. Now the coast goes this way, and then there is a promontory or projection that extends to deep water. We propose to build a breakwater where you see it indicated here, and another one here, and then dredge from a point outside of the harbor, which will be here.

Q. Now, taking the coast line of Brito as it is now where you intend

to make your harbor, what is the rise and fall of the tide there?

Q. Now, at low water, how far out from the present contour of the shore where you are to go into the land with your canal must you go in order to get 30 feet of water?—A. How much out at sea?

Q. Out at sea?—A. I should say about 1,500 feet.

Q. Is that a coast of rather a straight line?—A. Yes; rather a straight line.

Q. How are you to protect it then from storms?—A. By the construction of these two breakwaters, which will be built from the rocks coming out from the divide cut.

Q. What kind of a breakwater do you propose to build there?—A. Riprap, out of large stones, just the same as the Holyhead breakwater.

Q. Not like the breakwater out from Amsterdam to the North Sea, which, I believe, is built of great rocks in tubes and laid up ?—A. No.

Q. Do you know how that North Sea breakwater has stood the elements? I saw it, when it was just about being completed, in 1879.—
A. It has stood very well, but it is a very expensive work. The Holyhead breakwater is built of riprap and is doing its work just as well. In this case we have a certain amount of rock we have to dispose of, and we have no other use for it except the construction of such breakwater and of locks and dams, and the balance must be disposed of by dumping on the poil banks.

Q. What is the length of these contemplated breakwaters?—A. One is 900 feet long, extending to 40 feet depth of water, and the other is between 500 and 600 feet. The object of the latter is merely to narrow the entrance so that the swell will produce no disturbance in the harbor.

Q. How far apart will the head of the two breakwaters be?-A. Six

hundred feet.

Q. And in a right line from the end of each one of those breakwaters to the land part of the canal as it comes in would be how far?—A.

That would be some 3,000 feet.

Q. Would that make a harbor long enough in heavy weather for a vessel to run in and round to and come to anchor?—A. Well, some vessels have to be careful in doing so, and it will always be safer in bad

weather to tow in sailing vessels.

Q. In what direction do these storms come on that coast of Brito?—A. They generally come from the southwest. I have submitted this plan of the harbor to the Navy Department, and they approve it and think it very good. The storms come from the southwest and the harbor will be protected, and the breakwaters are so placed that a heavy sea, after passing the outer end of one breakwater, will not go into the harbor, but pass beyond the end of the other breakwater.

Q. What are the natural resources of that country within 100 miles on either side of this canal and lake?—A. Principally cattle raising, coffee, indigo, sugar-cane, beans, rice, plantains, bananas, and all trop-

ical fruits.

Q. How much do you suppose, as a mere round estimate, population there is within two parallel lines, each drawn 100 miles away on either side of the line of your canal from sea to sea, making a cross-section of 200 miles in a straight course of 125 miles, or whatever it may be across there !—A. I should say 250,000.

Q. A sparse population, then !-A. Very much so.

Q. Well, the parts of that section that I have now assumed to give a description of that are not occupied by cultivation and clearage. What sort of forests are there; any valuable timber of any kind ?—A. Very valuable. It depends upon what side of the lake you are on. On the west side there is very valuable timber. Mahogany, rose-wood, ebony, and all kinds of timber for construction, very valuable; while on the east side the timber is generally soft, heavy, and not suitable for permanent construction.

Q. Of no particular value, then, for purposes of utility or commerce

for exportation ?- A. No, sir.

Q. The only resources of the country, then, would be those that come

from the cultivation of the soil ?—A. The cultivation of the soil and mines.

Q. Are there mines there !-A. Yes, silver and gold mines.

Q. Any coal !—A. Coal has been found recently and excavations are now being made to see to what amount it can be obtained.

Q. Is what they think they have found anthracite or bituminous !-A.

Bituminous.

Q. Any iron?—A. No, sir. Q. Any copper?—A. No, sir.

Q. So that, as far as known, the only value in ore is gold and silver!—
A. Gold and silver.

Q. No cinnabar !- A. No, sir.

Q. Are there any fine qualities of stone there—marbles or granite !—A. No, sir.

Q. All the rock is volcanic of one form or another !-A. All volcanic.

The committee adjourned.

SENATE OF THE UNITED STATES, COMMITTEE ON FOREIGN RELATIONS. Thursday, June 5, 1890.

The subcommittee met at 10.30 a.m. Present, Senators Edmunds (chairman), Dolph, and Payne.

STATEMENT OF HIRAM HITCHCOCK.

By Senator Edmunds:

Q. Please state your full name and residence ?-A. Hiram Hitchcock, Fifth Avenue Hotel, New York.

Q. You are president of the Maritime Canal Company of Nicaragua,

chartered by Congress ?-A. Yes, sir.

Q. How long have you been president ?-A. Since its organization,

May 4, 1889.

Q. Who were the people who participated in the organization of the company, if you have any papers to show ?—A. The incorporators named

in the charter took part in the organization.

Q. All of them ?—A. Not all of them, but about two-thirds of them, and the following committee was appointed at the meeting of the incorporators to act as a committee of five under said charter to open books of subscription to the capital stock: Hiram Hitchcock, Horace L. Hotchkiss, Francis A. Stout, R. A. Lancaster, and A. C. Cheney.

Q. What is that paper you have in your hand?—A. This is the first annual report which the company has to make to the Government of the United States under the terms of the charter, and which was

made last December.

Q. That is a copy of it ?-A. Yes, sir.

Q. Have you one to spare ?-A. I brought it for the committee. The report is as follows:

REPORT OF THE MARITIME CANAL COMPANY OF NICARAGUA.

To the honorable Secretary of the Interior:

Pursuant to section six of the act of Congress entitled "An act to incorporate The Maritime Canal Company of Nicaragua," approved February 20th, 1889, which provides that said company shall make a report on the first Monday of December in each year to the Secretary of the Interior, and in accordance with the instructions received from you prescribing the form of such report and the particulars to be given thereby, and by the express authority of the said company, we, the undersigned, Hiram Hitchcock, president, and Thomas B. Atkins, secretary of the said The Maritime Canal Company of Nicaragua, do hereby make the following report on behalf of the said company, and do certify and declare as follows:

First. That a meeting of the incorporation named in the said act of Congress was held on the scand of Moral 1980 appropriate sall at No. 26 Well street in the

held on the seventh day of March, 1889, pursuant to call, at No. 36 Wall street, in the city of New York, when the charter granted by Congress was unanimously accepted, and a communication to that effect forwarded to the Secretary of State. That at the same meeting Messrs. Hiram Hitchcock, Horace L. Hotchkiss, Francis A. Stout, R. A. Lancaster, and A. C. Cheney were chosen by a majority of the number from those named in the aforesaid act as the five incorporators empowered by said charter to open books of subscription to the capital stock of the company and to receive subscriptions for the same.

Second. That the said committee of incorporators gave thirty days' notice of the time and place of the opening of the books of subscription to the capital stock of the said company by publication in one daily newspaper in New York City and one newspaper in Managua, Nicaragua, and one in San José, Costa Rica, and that, pursuant to such notice, the said books of subscription were duly opened, on the 22nd day of

April, 1889, at No. 44 Broadway, in the city of New York.

Tuird. That a meeting of the subscribers to the said capital stock was held on the second day of May, 1889, pursuant to notice, at number 44 Wall street, in the city of

New York, and at such meeting the following board of fifteen directors was duly elected by the stockholders of said company in the manner provided for in the said act of incorporation, to serve for the periods set opposite their respective names, to

Charles P. Daly, Frederick Billings, Daniel Ammen, Horace L. Hotchkiss, Joseph

E. MacDonald, to serve for three years.

Francis A. Stout, Alfred B. Darling, Franklin Fairbanks, C. Ridgeley Goodwin, Alexander T. Mason, to serve for two years.

Joseph Bryan, James Roosevelt, Hiram Hitchcock, Horatio Guzman, Pedro Perez

Zeledon, to serve for one year.

That a majority of the above-named directors are citizens and residents of the United States, and that all of them are stockholders in the Maritime Canal Company

of Nicaragua.

Fourth. That on the fourth day of May, 1889, a meeting of the directors, elected as aforesaid, was held pursuant to notice, at number 44 Wall street, in the city of New York, and at such meeting by-laws were adopted, and the following officers were elected for the ensuing year, to wit:

President, Hiram Hitchcock.

Vice-President, Charles P. Daly. Secretary and treasurer, Thomas B. Atkins.

That all of the officers so elected are citizens and residents of the United States. Fifth. That in accordance with the provisions of said act of incorporation, the principal office of The Maritime Canal Company of Nicaragua has been established

in the city of New York, at No. 44 Wall street.

Sixth. That The Maritime Canal Company of Nicaragua has completed the axial surveys and final plans of the proposed interoceanic canal, and the same have been officially approved by the Government of Nicaragua. That on the third day of June, 1889, the company began the preliminary work of construction at Greytown, and on the 8th day of October following commenced the work of excavation. That the Government of the Republic of Nicaragua has officially recognized and declared by decree that the construction of the canal was formally commenced, in accordance

with the terms of the concession, on the said 8th day of October, 1889.

That since the said 3d day of June, 1889, the company has established permanent headquarters at Greytown, erected store-houses, hospitals, dwellings, and other buildings, constructed several miles of aqueduct, cleared parts of the Sau Juan and Deseado Rivers, laid several miles of broad-gauge railroad, constructed about thirty-five miles of telegraph line, and cleared the first part of the route of That it has shipped to Greytown and landed at that port large quantities of machinery, tools, lumber, piles, boats, and other materials necessary for the establishment of the plant to be used in the construction of the said canal. That, in addition to the above, the company has organized in Nicaragua a complete hospital service and ambulance corps, and has perfected the sanitary arrangements in and about its camps and headquarters.

Seventh. That during the coming winter the work of railroad and telegraphic construction will be continued and prosecuted with energy, the building of a breakwater for the Atlantic port of the canal will be commenced, and the dredging work will be pushed forward with all possible dispatch. That several large dredges have recently been contracted for, and other contracts relating to the construction of the canal are now in course of negotiation with responsible contractors, and it is ex-

pected they will be closed at an early date.

Eighth. That ten thousand one hundred and forty-five shares of the capital stock of The Maritime Canal Company of Nicaragua have already been subscribed at par, amounting in the aggregate to the sum of one million fourteen thousand five hundred dollars (\$1,014,500), of which amount six hundred and one thousand four hundred and fifty (\$601,450) dollars have been paid into the treasury of the company in cash. That the other assets of the company consist at present of the property, rights, privileges, and franchises now owned by it in Nicaragua and New York.

Ninth. That since the third day of June, 1889, the company has expended upon the work carried on in Nicaragua more than five hundred thousand (\$500,000) dollars, and that its liabilities, which consist chiefly of expenditures incurred during the month of November, do not exceed the sum of fifty thousand (\$50,000) dollars.

Tenth. That the details of the work to be done on the canal are briefly as follows: The construction of a breakwater at or near Greytown on the Caribbean Sea, and dredging thence to the westward ten miles through alluvial ground to the place where a lock of thirty-one feet lift will be built. At two miles beyond will be constructed a second lock or double lock of the combined lift of seventy-five feet, and a dam across the small stream Deseado, above which will be a basin affording four and one-quarter miles of free navigation; then a rock cut about two and three-quarter miles in length, followed by twelve miles of free navigation in the valleys of two small rivers, the San Francisco and the Machado. Here the waters will be raised by dams and embankments so as to form basins, which will connect directly with the

San Juan River above a large dam to be built across that river. Said dam will raise the waters in the river and lake and secure additional free navigation of sixty-four miles in the river and fifty-six and one-half miles across the lake. On the western side of the lake the canal will enter a cut of slight depth in the earth and rock of nine miles in length, issuing thence into the Tola basin, with five and one-half miles of free navigation, which will be obtained by damming the Rio Grande. At this dam a series of locks will lower the level eighty-five feet, and the canal will proceed in excavation down the valley of the Rio Grande a distance of two miles to the last lock, a tidal lock of twenty to thirty feet lift, below which the canal will enter the upper portion of the harbor of Brito, one and one-half miles from the Pacific.

In witness whereof we have hereunto set our hands this second day of December, in the year of our Lord one thousand eight hundred and eighty-nine, and affixed

hereto the corporate seal of said company.

HIRAM HITCHCOCK, President. THOS. B. ATKINS. Secretary.

[Seal of Maritime Canal Company of Nicaragua. 7

STATE OF NEW YORK, City and County of New York, sa:

Hiram Hitchcock, being duly sworn, says: That he is the president of said The Maritime Canal Company of Nicaragua; that he has read the foregoing annual report and knows the contents thereof, and that the same is in all respects correct and true.

HIRAM HITCHCOCK, President.

Sworn to before me this 2nd day of December, 1889. [Notarial seal.]

NESTOR PONCE DE LEON, Notary Public, N. Y. C., 25.

STATE OF NEW YORK,

City and County of New York, as :

Thomas B. Atkins, being duly sworn, says: That he is the secretary of said the Maritime Canal Company of Nicaragua; that he has read the foregoing annual report and knows the contents thereof, and that the same is in all respects correct and

THOS. B. ATKINS.

Sworn to before me this 2nd day of December, 1889. [Notarial seal.]

NESTOR PONCE DE LEON, Notary Public, N. Y. C., 22.

STATE OF NEW YORK,

City and County of New York, ss:

On the second day of December, in the year 1889, before me personally came Thomas B. Atkins, known to me to be the secretary of the Maritime Canal Company of Nicaragua, and with whom I am personally acquainted, who, being by me duly sworn, did depose and say: That he resided in the city of New York; that he was the secretary of The Maritime Canal Company of Nicaragua; that he knew the corporate seal of said company; that the seal affixed to the foregoing report was such corporate seal; that it was so affixed by order of the board of directors of the said company, and that he signed his name thereto by the like order as secretary of the said company.

And the said Thomas B. Atkins further said that he was acquainted with Hiram Hitchcock and knew him to be the president of said company; that the signature of the said Hiram Hitchcock subscribed to the said instrument was in the genuine handwriting of the said Hiram Hitchcock, and was thereto subscribed by the like order of the said board of directors, and in the presence of him the said Thomas B.

Atkins.

In witness whereof I have hereunto set my hand and official seal this second day of December, A. D. 1889. [Notarial seal.]

NESTOR PONCE DE LEON. Notary Public, N. Y. C., 25.

Q. This report shows the proceedings down to the time it was made ?-A. Yes. If you will allow me to say further, that committee opened the books and proceeded in accordance with the charter and a board of directors was elected, which organized and elected its officers May 4, 1889.

By Senator DOLPH:

Q. How much stock was subscribed !—A. There was subscribed at that time 145 shares, mainly by the different incorporators, for the purpose of organization; no other subscriptions were offered.

By Senator EDMUNDS:

Q. What was the par value of the shares ?—A. One hundred dollars.

By Senator DOLPH:

Q. Does this report show the stockholders and the amount subscribed by each ?—A. Not the individual names. I could have brought the detailed statement of the list of names, but the different incorporators subscribed for a few shares each for the purpose of effecting the organization of the company.

By Senator EDMUNDS:

Q. How much was subscribed down to the 2d of December !—A. In all 10,145 shares, and I have brought the certificate of the secretary of the company, showing the subscription down to the present time.

Q. Just read the certificate.—A. It is as follows:

I, Thomas B. Atkins, secretary of the Maritime Canal Company of Nicaragua, hereby certify that the entire issue of the capital stock of the Maritime Canal Company of Nicaragua is 10,145 shares, all of which is now outstanding; and that of said issue 10,000 shares have been paid for in full in cash, and 145 shares have been paid for, 10 per centum thereof in cash, and 90 per centum thereof is payable at the option and upon the call of the company.

In certification of which, witness my hand this 3d day of June, 1890.

THOMAS B. ATKINS, Secretary.

By Senator DOLPH:

Q. You say you have nothing to show who are the present stock-holders?—A. No, sir, I have not. I could have brought you that list. It includes the incorporators under the charter. I think they are all down for one or more shares. I can give you that list of names from a copy of the charter here if it is important.

By Senator EDMUNDS:

Q. No; we know who those are. We would like to have you send us a list of the names of all the present stockholders, and the number of shares standing to the credit of each.—A. I will do that. It is as follows:

List of shareholders of The Maritime Canal Company of Nicaragua, chartered by the United States of America:

	Shares.		Shares.
Charles P. Daly	5	J. E. McDonald.	. 5
Henry R Hoyt		C. R. Goodwin	
Robert Sturges	2	Frederick Billings	. 5
Alexander J. Mason	1	A. G. Menocal.	. 5
F. A. Stout	5	R. A. Lancaster	
H. L. Hotchkiss		Henry A. Parr	. 5
Henry C. Taylor	. 5	J. F. O'Shaughnessy	. 5
A. C. Cheney		H. Guzman	
H. Hitchcock		Thomas B. Atkins	
F. Fairbanks		C. H. Stebbins	
A. B. Darling	. 5	J. Aldig6	
James Roosevelt	. 5	C. Devries	
Daniel Ammen		E. F. Beale	
A. S. Crowninshield	. 5	Joseph Bryan	. 5
J. W. Miller	. 5	The Nicaragua Canal and Con-	
F. F. Thompson	. 5	struction Company	10,000
G. H. Robinson	. 5		-
G. E. Kissel	. 5	Total	. 10, 145

I, Thomas B. Atkins, secretary of the Maritime Canal Company of Nicaragua, hereby certify that the foregoing is a correct list of the shareholders of the company and of their respective holdings as set opposite their respective names.

Witness my hand this 7th of June, 1890.

THOMAS B. ATKINS. Secretary.

Q. Who is the secretary of your company ?—A. Thomas B. Atkins.

Q. What is his address ?-A. 44 Wall street.

Q. Who is the treasurer?—He is also the treasurer of the company. Here is a complete list of the directors and officers of the company. We had an annual meeting in May, 1890.

Directors for three years.—Joseph Bryan, James Roosevelt, Hiram Hitchcock, Horacio Guzman, Thomas B. Atkins.

Directors for two years.—Charles P. Daly, Frederick Billings, Daniel Ammen, Horace L. Hotchkiss, Joseph E. McDonald.

Directors for one year. - Francis A. Stout, Alfred B. Darling, Franklin Fairbanks, C.

Ridgely Goodwin, Alexander T. Mason.

President, Hiram Hitchcock; vice-president, Charles P. Daly; secretary and treasurer, Thomas B. Atkins.

Executive committee: Frederick Billings (chairman), Charles P. Daly, Horace L. Hotchkiss, Alexander T. Mason, Hiram Hitchcock.

That is the list as it now stands. The only change from last year was the retirement of Mr. Zeledon, of Costa Rica, and the election of Mr. Atkins in his place.

By Senator DOLPH:

Q. Does your report to the Government show the financial condition of the treasury; does it contain a statement of the assets of the company at the time it was made ?-A. The report to the Government, of which this is a copy, was made in December. It states the facts with reference to the organization and the subscription of stock and expenses and disbursements to that time. In February, before the year from the passage of the charter had expired, I also made a report to the Government, as required by the charter, that we had received more than \$1,000,000 as payments on account of the stock of the company. I have here a statement for you of the financial status of the company at the present time, the treasurer's statement.

Q. Yes: that is what I was inquiring about.—A. I will read it.

I, Thomas B. Atkins, treasurer of the Maritime Canal Company of Nicaragua, hereby certify that I have received as treasurer of said company during the year ending May 1, 1890, \$1,001,450, all of which has been paid in on subscriptions to capital stock; of which amount I have disbursed for construction and other purposes during the year, \$830,161.87, and have remaining, May 1, 1890, a balance in the treasury of \$171,283.13.

In certification of which, witness my hand this 3d day of June, 1890.

THOMAS B. ATKINS, Treasurer.

By Senator EDMUNDS:

Q. Now state in that connection what are the outstanding obligations of your company ?-A. We have no outstanding obligations that are due. Our bills due are all paid. There may be, however, some small bills not yet audited. At the time this report was made, in December I think, there were about \$50,000 of expenses that might be presented for payment.

By Senator DOLPH:

- Q. And the \$800,000 paid over to the construction company !--A.
 - Q. So that it was not disbursed by your company !—A. No, sir; but

it has been disbursed, on vouchers by the construction company, for work done under their contract with us.

By Senator EDMUNDS:

Q. Well, when you paid over that \$800,000, in round numbers, was that in advance or for work actually performed ?—A. For work actually

performed.

Q. Well, what funds are they working on now? I understand from Mr. Miller that the work is progressing in a diligent and satisfactory way.—A. They are going on with their own money, and as fast as they present us with proper vouchers for work, we must, in order to pay them, obtain money on stock subscription or on bonds.

Q. Now, what is the arrangement between your company and the construction company !—A. The arrangement is as follows, and I have brought a copy of the papers to leave with you. This is the provisional

contract under which we were acting.

Q. The temporary contract.—A. Yes.

Mr. Hitchcock read the contract as follows:

I, Thomas B. Atkins, secretary of The Maritime Canal Company of Nicaragna, hereby certify, that on the 24th day of May, 1889, there was held at the office of the company, 44 Wall street, in the city of New York, a meeting of the executive committee of the board of directors of The Maritime Canal Company of Nicaragua, duly convened; that at said meeting there was presented a letter from The Nicaragua Canal Construction Company, of which a certified copy, marked Exhibit A, is hereto attached, was duly authorized, and that a second letter from The Nicaragua Canal Construction Company, of which a certified copy, marked Exhibit C, is hereto attached, was rereceived by said executive committee, was considered, and was ordered on file. In certification of all of which,

Witness my hand this 3d day of June, 1890.

THOMAS B. ATKINS, Secretary.

EXHIBIT A.

OFFICE OF THE NICARAGUA CANAL CONSTRUCTION COMPANY,
44 Wall Street, New York, May 24, 1889.

THE MARITIME CANAL COMPANY OF NICARAGUA:

Gentlemen: The Nicaragua Canal Construction Company hereby offers to do the entire work of every kind and nature of constructing the interoceanic canal to be built by your company, and in accordance with the plans of A. G. Menocal, as approved on the 9th day of March, 1889, by the board of civil engineers to whom the same was submitted for examination, and also according to any modifications or changes that may hereafter be made in said plans which do not substantially vary from the general route as now laid down in Mr. Menocal's plans or increase the expenses of constructing the same, and to begin the work at once and to complete the same in all respects as required by the stipulations and conditions in the concessions held by your company, for the sum of \$200,000,000 in the first mortgage bonds of your company and \$75,000,000 of the capital stock, payments to be made in equal proportions of stock and bonds every thirty days for such portions of the work as the engineers of your company shall certify have been completed, the work to be begun at once.

As a guaranty of good faith this company hereby agrees to subscribe for \$100,000,000 of the stock of your company, and to pay for the same in cash.

Yours very truly,

A. C. CHENEY,
President of the Nicaragua Canal Construction Company.

f, Thomas B. Atkins, secretary of the Maritime Canal Company of Nicaragua, hereby certify that the foregoing is a true and correct copy of a letter received May 24, 1889, by the Maritime Canal Company of Nicaragua from the Nicaragua Canal Construction Company.

Witness my hand this 3d day of June, 1890.

THOMAS B. ATKINS, Secretary. To that I made the following reply:

EXHIBIT B.

THE MARITIME CANAL COMPANY OF NICARAGUA, 44 Wall Street, New York, May 24, 1889.

To the NICARAGUA CANAL CONSTRUCTION COMPANY:

GENTLEMEN: Your offer to begin at once the construction of the Nicaragua Canal

You are hereby authorized and directed to begin such construction work at the earliest possible moment, with this understanding and agreement: That, if within three months this company does not accept your proposition or execute a contract with your company that shall be mutually satisfactory, then, in such an event, this company will re-imburse your company for all the expenditures incurred in connection with the construction work and 10 per cent. in addition thereto.

Yours, very respectfully,

HIRAM HITCHCOCK. President of the Maritime Canal Company of Nicaragua.

I, Thomas B. Atkins, secretary of the Maritime Canal Company of Nicaragua, hereby certify that the foregoing is a true and correct copy of a letter delivered by me May 24, 18-9, to the president of the Nicaragua Canal Construction Company.

Witness my hand this 3d day of June, 1890.

THOMAS B. ATKINS. Secretary.

That, of course, was because we could not make a large contract with any company at that point of time, and therefore we reserved the right to simply pay them for what they did and 10 per cent. additional.

Q. Well, that is within three months ?-A. If we did not make a contract within three months. Well, we did not make a contract within

three months.

Q. So that as the thing stood they were going on under this authority and you were either bound to make a contract that was mutually satisfactory or else you were bound to re-imburse them with 10 per cent., profit?—A. That is it exactly. To that they responded as follows:

EXHIBIT C.

OFFICE OF THE NICARAGUA CANAL CONSTRUCTION COMPANY. 44 Wall Street, New York, May 24, 1889.

HIRAM HITCHCOCK, Esq., President of the Maritime Canal Company of Nicaragua:

DEAR SIR: I beg to acknowledge receipt of your letter of the 24th instant, authorat the earliest possible moment, upon terms and conditions therein stated.

In reply, I beg to advise you that this company will, in compliance with your directions, commence the work of constructing the Nicaragua Canal at once; and to

that end will dispatch an expedition to Nicaragua on the 25th instant.

Very respectfully, your obedient servant,

A. C. CHENEY. President of the Nicaragua Canal Construction Company.

I, Thomas B. Atkins, secretary of the Maritime Canal Company of Nicaragua, hereby certify that the foregoing is a true and correct copy of a letter received May 24, 1889, by the Maritime Canal Company of Nicaragua, from the Nicaragua Canal Construction Company.
Witness my hand this 3d day of June, 1890.

THOMAS B. ATKINS, Secretary.

That was the 25th of May a year ago. We regarded this as entirely sufficient for us because it left us perfectly free (without any obligation as to stock or bonds to any one) to pay them for what they had done and 10 per cent, and stop at any time.

Q. And take it off their hands ?-A. Yes.

Q. Now, then, what further steps were taken?—A. They immediately sent out an expedition and work commenced there on the 3d of June. The progress of that work is fully stated in this report to the Government of the 1st of December and in this further report which includes everything down to the present time, and which is as follows:

Since the commencement of operations in Nicaragua the company, with funds already obtained, has established a complete and perfect organization at Greytown, from which point active operations are being conducted, and has accomplished besides many other important works of installation and construction. The final plans and detailed surveys of the canal, its harbors, locks, and other accessory works, have been completed and verified, and large sums of money have been expended for engineering works in locating railroads, making rock borings at the divide and other places along the line of the canal, and in perfecting the location of the route from ocean to ocean. Permanent headquarters have been established at Greytown, large barracks, storehouses, hospitals, dwellings, and other buildings have been erected, and wharves and warehouses built for the receipt and storage of supplies. Parts of the San Juanillo, Deseado, San Francisco, and other navigable streams through which the canal will pass, have been cleared of obstructions to navigation, and several miles of the route of the canal between the harbor and lock number one have been grubbed and cleared and made ready for dredging. The company has built over a mile of broad-gauge railroad, constructed over 70 miles of telegraph and telephone lines, and has also landed at Greytown large quantities of machinery, tools, lumber, piles, creosoted timber, boats, steam launches, lighters, pile-drivers, and other materials and equipment necessary for work in restoring the harbor, and for use in the construction of the canal. It has built over 700 feet of the breakwater intended to protect the harbor entrance from the effects of shifting sand on the coast, and has also under construction an aqueduct 13 miles long, which is to supply Greytown and the company's headquarters with pure and fresh water from the mountains. Contracts have been let for dredging the bar and harbor, and for the building of 17 miles of railroad from Greytown to the divide, and work under the same will be commenced on May 15, 1890. Some of the dredges contracted for are now on their way to Nicaragua, while others are in course of construction. Large quantities of railroad supplies, locomotives, steam excavators, water piping, and other materials of construction necessary for the railroad, breakwater, aqueduct, and other works, are to be forwarded to Greytown every month, and, in short, the whole work is being pushed forward as rapidly as possible.

That is the report of the work. The work, of course, has been done

by the Construction Company.

Q. How much has been expended in all, so far, in round numbers?—
A. In all, I should say (I am not entirely familiar with the later details of expenditure, but I am tolerably well up in it), from first to last, about a million and a half has been expended. That of course includes the expenses from the beginning.

Q. Who is the secretary of that company?—A. Mr. Jacob W. Miller, who is the president of the Boston and New York (New London) Rail

way Company.

Q. Who is the treasurer ?—A. Henry R. Hoyt.

By Senator DOLPH:

Q. How is it that the difference between the \$800,000 paid out by your company and the million and a half has not been presented !—A. I stated this was from the beginning. Now in the first place the Nicaragua Canal Association was formed, and the Construction Company was its successor as to work of construction. The association expended a quarter of a million dollars before the Construction Company took hold, so that including that, and what the Construction Company has

done, and done in advance of payment, I understand it is about a million and a half dollars.

Q. Do you pay interest on advances as the money is expended by the Construction Company?—A. No, sir; the contract does not call for it.

By Senator Edmunds:

Q. Are any of the officers of the Maritime Canal Company members of the Construction Company?—A. Not as officers; they are stockholders. The officers are entirely different.

Q. The management is entirely separate?—A. Entirely separate.

By Senator DOLPH:

Q. Can you state how nearly identical the stockholders of each company are?—A. Well, I should say all the stockholders of the Maritime Company are also stockholders of the Construction Company.

By Senator EDMUNDS:

Q. Are any of the stockholders of the Construction Company, aside from the ones you have named, stockholders in the Maritime Company?—A. No, sir.

Q. But the Construction Company itself is a stockholder to the extent of \$1,000,000?—A. Yes; and the Construction Company has a

large list of stockholders all over the country.

Q. Have you had any further transactions with the Construction Company looking to the future as to what sort of a permanent contract shall be made?—A. We have arranged and agreed upon the leading points of a permanent contract. The original draft of that contract I did not bring with me. The contract has never been signed because it is not quite complete. It can not be completed until we know a little more as to what our securities will bring in order to know how many securities to issue, and in order to fix a compensation in securities. All those questions will have to be settled before the contract can be fully

completed. I have the synopsis of the contract here.

Q. Is there any point of difference between your company and the Nicaraguan Government now outstanding?—A. No, sir, there is no point of difference whatever. I may as well perhaps say, as you ask me the question, with reference to that, that there is no point of difference remaining unsettled between the company and Nicaragua at the present time. That leads me to say (without assuming to be able to give you gentlemen the least information on that point) that it is proper that you should know from us officially the relations which exist between us and Nicaragua, and in fact Central America generally. It is, as I said before, perhaps unnecessary to state these facts, but there are complicated questions. The rights to the San Juan River, the boundary questions between Nicaragua and Costa Rica, always come up when any question of transit across that isthmus arises. You will find that under Tyler's administration, in 1842, this matter was somewhat considered by Mr. Webster, and it has been before every Secretary of State in some aspect from that time to this. It involves the canal question. Now the question of the respective rights in this particular route was supposed to have been settled under the treaty of limits between those two powers of 1858. Under that treaty, while Nicaragua owns the entire route, yet Costa Rica has the right to navigation and has the right to be consulted.

Now I come down to the point where it concerns this particular con-

cession. The Nicaragua Canal Association, which was formed in 1886. sent out early in 1887 to obtain a concession to build this canal. Nicaragua had the right to give this concession, and in it gave us the fullest freedom to locate the route, but for the reason that the treaty of 1858 gives to Costa Rica the right of navigation and that in the construction of the capal waters would be made to overflow Costa Rican territory, Costa Rica took the ground that Nicaragua should have recognized that treaty to the extent at least of obtaining the consent of Costa Rica to this concession. Nicaragua did not do that. We accepted the concession in good faith, believing Nicaragua had the absolute right to grant it. The first thing we encountered was a protest, thirty or forty days thereafter, from Costa Rica, announcing that the concession was ot no value because she had not been consulted. The Government of Nicarauga could have consulted her before, and have gone on and satisfied her for any damages which the overflow might do to her territory, but we were left to make terms with Costa Rica. We then for six months negotiated to obtain a concession from Costa Rica, when this was accomplished. Nicaragua immediately protested against our concession from Costa Rica. We assured Nicaragua that we had accepted the concession from Costa Rica simply in the nature of a quitclaim of any rights she might have; and when we formed our company and accepted the Costa Rica concession we accepted it only in so far as it did not conflict with the territorial rights and proprietary interests of the Republic of Nicaragua. Thus we were entirely open and frank in the whole transaction.

Now you will readily see that up to that point it was useless to talk about the sale of bonds with the protest of either government pending Then when the first expedition, sent out after the Maritime Company was organized, commenced work on the 3d of June, 1889, Nicaragua officially notified us that, while she would protest against our concession from Costa Rica, yet she would not go beyond protesting and would not interfere with the construction of the canal. But in July Nicaragua ordered the stopping of our work at Greytown. pay attention to that order, because she immediately modified it by saying that she would not regard the work as an official commencement of permanent work. The troubles continued and were fostered by parties from England, whose names I know, who wanted to have the 24th day of October arrive and the Government of Nicaragua not recognize that we had begun our work, so that our concession would lapse. On the 16th of September, 1889, the Government of Nicaragua notified as officially that if we did not confine ourselves within her limits, thereby ignoring any rights or claims of Costa Rica, she would not approve our surveys nor recognize the commencement of the work of construction. and that on the 24th of October she should consider our concession as having lapsed.

This course of Nicaragua was so unjust, that I went immediately to the Government here, through the State Department. I stated the case fully. Mr. Blaine met the question with great fairness and prompt ness, and immediately wired to the American minister at Central America to go to Nicaragua and say to the Nicaraguan Government that he was surprised at the report of the attitude of the Nicaraguan Government towards this company, and wished him to examine into the facts and report to the State Department here, and at the same time to assure the Government of Nicaragua that the Government of the United States would not remain passive and see the rights of its citizens threatened. That dispatch of Mr. Blaine had the desired effect. Mr. Mizner and

Mr. Hall, our permanent agent there, arranged a plan by which Nicaragua could recede from her position with dignity, which was in the form of a joint declaration. On our part we agreed to go on and build the canal in good faith under the concession, and the Nicaraguan Government agreed to approve the surveys and work, so that the work of construction was recognized officially as commenced on the 8th of last October. I will submit copies of the telegrams between the President of Nicaragua and myself.

[Copy of telegram sent October 9, 1889.]

His excellency President of Nicaragua,

Managua:

Please accept my sincere congratulations upon the happy termination of all differences, and the company's assurance that it will vigorously prosecute the work of the canal in the interest of Nicaragua and the whole commercial world.

HIRAM HITCHCOCK,
President Maritime Canal Company of Nicaragua.

[Translation of telegram received from the President of Nicaragua in reply to ours of October 9.]

Managua, October 11, 1889.

President of the Maritime Canal Company of Nicaragua:

I congratulate myself jointly with you upon the happy settlement of the canal question, and with the greatest satisfaction I offer the cordial assistance of my Government to the efforts of the company for the realization of this grand enterprise.

ROBERTO SACASA,
President of the Republic.

Q. So that all this work was begun before?—A. Surveys were begun in November, 1887, and \$250,000 had been spent on the work prior to June, 1889, and everything had been entirely harmonious except in the matter of protests, as stated, down to the point when this attempt was made through various influences to cause the Government to dispossess us of our concessionary rights.

Now you can readily see that with protests from Costa Rica at the very start, with protests from Nicaragua, with all these troubles, this company was not in a position to say one word about the sale of stock or bonds until the 8th of last October. Very soon after that we were confronted with one of the tightest money markets New York and the financial world has seen of late, which has only in the last sixty days been relaxed, so there are strong reasons why we have never attempted to place the securities of the company.

We have had a great many questions asked about our securities, and

we have always been willing to listen to them.

Q. You mean questions asked you by people who represent capital ?—
A. Yes; people come—we do not always know how much capital they represent—and say "We can place your bonds, so and so." Our reply has been, "We can not offer our bonds under present circumstances." Of course the time is soon coming when we can take up the subject. The Government of Nicaragua is very friendly now, and most thoroughly in earnest and ready to help us in reference to this canal all in its power. But by October next we are pledged to put into that work \$2,000,000. Now we shall get that \$2,000,000 into the work. Senator Miller, president of the Construction Company, assures me that there is no question about it; so that there will be no reason for the Nicaraguan Government raising any objection that we have not complied with all the terms

of the concession; but of course it will depend somewhat upon plots and schemes, and upon the eyes of her engineers. They may see five or six millions and may not see one. Between Nicaragua and Costa Rica there is always danger of difficulty coming up in reference to this canal and the question of their respective rights there. I had a telegram the other day that the Costa Rican Government had appointed another commission to confer with Nicaragua again as to that. Nicaragua at this stage of the proceedings might simply propose to pay for the 400,000 or 500,000 or 600,000 acres of land (which may be overflowed by our dams) of Costa Rican territory, and arrange as to navigation, etc., then there could be no further claim upon Nicaragua or upon us. But until the respective rights of those two powers are settled there

will always be more or less difficulty.

There is another point I would like to mention. I have always felt entirely secure as to the position of this company as chartered by Congress, not only because it was chartered by Congress, but on account of the treaty of 1867 between the United States and Nicaragua. The terms of the treaty are particularly strong and conclusive. The United States has the same right over the Nicaragua route under the treaty of 1867 as it has over the Panama route. If there is any difficulty that obstructs our transit through that territory the United States has the right to go in and preserve order just as she has done on the Panama route under the treaty with Colombia. So that I have felt entirely confident that in the end the company, if it went on in good faith, which it surely will, will receive the protection of the United States. not only because it was incorporated by the United States, but because of these treaty relations, and because of the importance of that route to the United States.

Q. Now give us the synopsis of your permanent contract.—A. As I said before, these amounts can not be correctly defined until these various questions are settled. (Mr. Hitchcock here read the synopsis, and the committee directed that it be not printed but placed on the files of the committee.)

By Senator EDMUNDS:

Q. What is the actual top-working estimate of the engineers on their final revision; what amount of actual cash, it being ready in hand, will that canal cost ?-A. I will state that as definitely as I am able. Our own engineer, Mr. Menocal, makes a full and final estimate, as in his judgment absolutely sufficient to build the canal, \$65,000,000. The advisory board of engineers, which we called in to review those plans, and whom we told "we have not called you to approve these plans, but we call upon you to find all the fault you possibly can; that is your business, and we want you particularly to review these figures"—they carried that estimate up from \$65,000,000 to \$80,000,000. They also added \$7,000,000 for the following reason: They said, "You have a peculiar country there. It is a volcanic country. It is not actively so now, but it has been in years past, and when you build these dams you do not know how many crevices, as the water rises, it may find to go through; and therefore you do not know how many leaks you will have to stop; and, while we do not really believe it will cost you that, it may possibly files of the committee directed that it be not printed but placed on the cost you a few million dollars; so we will add \$7,000,000 for that item." That carried it up to \$87,000,000.

Q. They allowed a certain amount for contingencies in the ordinary way, and then, as a special contingent fund in view of unforeseen possibilities, they added \$7,000,000?—A. Yes. So that the actual construction of the canal, according to the advisory board, would cost \$87,000,000. Then of course there would be some expenses of administration. I have always said that the lowest amount that should be fixed as the probable actual economic cost of that canal would be

\$100,000,000. I have never had any other opinion.

Q. Who were the gentlemen who composed the advisory board of engineers?—A. The advisory board was, first, Mr. John Bogart, as chairman, who was the chief engineer of the Erie Canal system. The others were Mr. Wellington, who is an expert engineer and has had a great deal to do in advising about the construction of large aqueduct and other works in this country; Mr. Myers, who is a very prominent railway engineer, and who lives, I believe, at Richmond, and has constructed a great many railway lines; Mr. Charles T. Harvey, who was the constructing engineer of the Saulte Ste. Marie Canal, and Prof. H. A. Hitchcock, the professor of civil engineering in the Thayer school of engineering at Dartmouth College. That was the advisory board.

Q. Would it be possible for your company, in making this permanent contract, to insert in it a clause that if the United States should at any time before the completion of the work, wish to take the things off the hands of the Construction Company, advance money itself, and thus save the enormous difference between actual cost and outstanding obligations and stock, that then the contract should terminate right where it was and be settled up, and its further execution, so far as getting such a great amount of bonds in excess of the actual cash to be used. should stop? By that I do not mean that the Construction Company should stop doing the work and being paid for it in cash, or any adjustment that should be made, but whether you could manage with them to have the door left open for the United States to step in and help you all out in some suitable way, so as to save this enormous amount of outstanding obligations at the end .- A. I have no doubt but what such an arrangement could be made, and I will say very frankly that I think I represent a dominant interest—a dominant body of men in this canal. who, while they expect to realize something from it, yet their desire is so strong for the canal that there will be no personal consideration in the way of the arrangement that you suggest, and I should very decidedly favor it. They are not a selfish body of men. You take men like Frederick Billings, Judge Daly, Mr. Fairbanks, Mr. Darling, and all those gentlemen, and first of all they want the canal built.

Q. I hope, Mr. Hitchcock, and I have no doubt that both my colleagues and doubtless the whole committee will agree with me in that hope earnestly, that your company which Congress has chartered, if you are compelled to make definite and final arrangements before any judgment of Congress, in view of the present situation, can be taken definitely one way or the other, that you will have a clause inserted which shall enable you, justly and legally to the Construction Company, to stop this enormous waste of obligations in such a way that the United States may come to your assistance.—A. I should favor that very decidedly.

By Senator PAYNE:

Q. Is it a part of your obligation under your charter to report annually?—A. Yes; and I have submitted already a copy of our annual report.

By Senator EDUMUNDS:

Q. Have you any copies of the concession of Nicaragua and Costa Rica?—A. I have brought over for you everything I thought you might possibly want. The concessions are out of print, but I have brought over a copy of each of them; also a report of the consulting engineers and a report of the final location by Chief Engineer Menocal.

[The copies of the concessions, etc., were placed on file.]

Committee adjourned.

SENATE OF THE UNITED STATES, COMMITTEE ON FOREIGN RELATIONS, Saturday, June 28, 1890.

The committee met at 10.30 a.m. Present, Senators Sherman (chair-

man), Edmunds, Frye, Evarts, Dolph, and Payne.

There were also present, at the request of the committee, Hiram Hitchcock, president of the Maritime Canal Company of Nicaraugua, and Warner Miller, president, and Alexander T. Mason, attorney of the Nicaragua Canal Construction Company.

STATEMENT OF HIRAM HITCHCOCK-Continued.

By the CHAIRMAN:

Q. Mr. Hitchcock, it is presumed you know the situation of the matter before us. We want to get from you the precise financial status of the Maritime Canal Company and also of the Construction Company, and we would like to have you make your statement in your own way. We want to know the precise amount of the obligations you are under either for improvements made or for expenses already incurred, including obligations now existing or that are accruing, so as to get at the exact present condition of the two companies. We have your former statement here before us, and you need not go over that unless it is necessary to repeat some portion of it.—A. Allow me to say that in my previous statement I answered such questions as were asked, and made some further remarks with reference to this matter. I did not go into all of the details of the transactions relating to the concessions, as I took it for granted that you gentlemen were fully conversant with nearly all those particulars. In order to answer your question clearly, I will go back to the Nicaragua Canal Association which obtained the two concessions from the Governments of Nicaragua and Costa Rica, respectively. Under those concessions the Canal Association was obliged to form a construction company and also to take measures for the formation of the Maritime Canal Company of Nicaragua. It immediately formed the Construction Company, which was incorporated three years ago this month.

Q. That is the Construction Company ?—A. The present Construction Company, to which company the concessions were transferred by the association. Under the terms of the Nicaragua concession the Nicaraguan Government is to receive 6 per cent. of the stock, as we believe, of the company, but as they believe 6 per cent. of all the secu-

rities issued by the company. That question remains unsettled, a construction of the clause referring to that matter not having been agreed upon. The Costa Rican concession calls for a million and a half, or 1½ per cent. of the stock of the Maritime Company. The Maritime Company has not as yet issued any of its stock to those Governments. The association itself, under the terms of the concession from Nicaragua, is entitled to the same compensation which the Government of Nicaragua receives; that is, 6 per cent. of the securities of the Maritime Company.

Q. Repeat that sentence.—A. I say that under the concession the

association itself, that is, the Nicaragua Canal Association-

Q. The old association !—A. The old association under the fifty-first article was to receive from the Maritime Company 6 per cent. of the stock and bonds of the company to be formed.

By Senator EDMUNDS:

Q. The fifty-first article, do you say?—A. The fifty-first article. Now, those two concessions, as I stated, were disposed of to the Construction Company in order that the work might go on, and we were obliged under the concessions to form a construction company, and we had to wait a long time before we could form, as we believed properly, the Maritime Company. We waited for this Congressional charter and organized under it. Now the Maritime Company was formed—

Q. The old association was merged in the Maritime Company \(-A \). The old association was dissolved; the Maritime Company was formed and purchased of the Construction Company all its right, title, and interest in and to the two concessions—for which it agreed to pay \(\frac{\$12,000,000}{0.000} \) stock of the Maritime Company. The stock has not been issued; and the stock has not been issued to those two Governments. We have not issued the \(\frac{\$12,000,000}{0.000} \) to the Construction Company, although we have agreed so to do. We left it to be delivered at their demand, and the obligation still remains to deliver on call to the president of the Construction Company this \(\frac{\$12,000,000}{0.000} \) Maritime Company stock that is agreed to be paid for these concessions.

By the CHAIRMAN:

Q. One half of which goes to the Nicaraguan Government and the other half to the Construction Company ?—A. No, that is entirely different. Six per cent. is to go to Nicaragua, and 1½ per cent. to Costa Rica, but the Maritime Company pays to the Construction Company for those two concessions, with all the rights, privileges, and franchises thereunder, \$12,000,000 stock.

Q. Does that \$12,000,000 cover the amount that goes to Nicaragua

and Costa Rica ?-A. No, sir; that is entirely independent.

Q. Then you are under obligations to issue \$12,000,000 to the Construction Company, \$6,000,000 to Nicaragua, and \$1,500,000 to Costa Rica?—A. Yes.

Q. Nineteen million five hundred thousand dollars ?-A. Yes.

Q. Now, what are you to receive for that \(^1\)—A. That was regarded as the just value of the concessions which the Construction Company had purchased of the association. That of course includes the \(^36\),000,000 stock which the association is entitled to under the terms of the concession, and any right they might have to \(^6\) per cent. of bonds and \(^6\) per cent. of any future increase of capital stock. So the Construction Company, for taking hold of this enterprise and practically carrying it on, receive an additional \(^66\),000,000 of stock; but you gentlemen will

remember that the Costa Rican concession was subsequent to that from Nicaragua, and has of course very great value. Without it the canal

could not be built as at present located.

Q. Then, if I understand you, the answer to my question is, that you are under obligations to issue in the aggregate \$12,000,000 stock to the Construction Company, \$6,000,000 to Nicaragua, and \$1,500,000 to Costa Rica?—A. Yes.

By Senator Edmunds:

Q. There would be no additional claim by the construction company?—A. No, sir. Whatever the association was entitled to receive under the 51st article of the concession, which was 6 per cent. of the stocks and bonds, was conveyed by it to the construction company, and subsequently by the construction company to the Maritime Canal Company of Nicaragua.

Q. But you have not issued that stock yet?—A. No, sir.

Q. Who compose the association that got this concession of Mr. Menocal?—A. The association was originally formed of Frederick Billings, Chief Justice Daly, Admiral Ammen, Commander Taylor, Horace L. Hotchkiss, Francis A. Stout, Commander Crowninshield, Engineer Menocal, and myself. That was the original meeting, but the number was afterwards increased and included perhaps one hundred and twenty-five, possibly one hundred and fifty gentlemen.

Q. Did that association have a corporate existence?—A. No, sir; it was simply a business association for the purpose of obtaining con-

cessions.

Q. Did it keep books, minutes of its meetings, etc. !—A. It kept minutes of its meetings.

Q. Where are they, are they in your possession?—A. They are not in my possession. The association some time ago went out of existence.

Q. That association turned itself into the Construction Company?—A. No, sir; it held its organization intact. Its members aided in forming the Construction Company.

Q. When was the Construction Company formed ?—A. It was formed

nearly three years ago this month.

Q. Before the passage of the act to incorporate the Maritime Canal Company?—A. Yes. The Construction Company commenced work in December, 1887.

Q. Who composed the Construction Company !-- A. It was composed

mainly of the gentlemen of the association.

Q. Give the names of everybody you can remember.—A. There was Mr. Billings, Governor Fairbanks, of Vermont, who was succeeded by his brother, Col. Franklin Fairbanks, Judge Daly, Mr. Stout, Mr. Hotchkiss, Mr. Thompson, of the First National Bank of New York, Mr. Darling, Mr. James Roosevelt, Mr. Robert Garrett and T. Harrison Garrett, of Baltimore, Robert A. Lancaster, of Richmond, Joseph Bryan, of Richmond, Mr. Cohen, of Savannah, Mr. Aldige, of New Orleans, Mr. Anderson, of Cincinnati, and I presume I could think of a good many more of them.

By the CHAIRMAN:

- Q. Which one of the Andersons ?—A. I think, William P. Anderson. By Senator EDMUNDS:
- Q. When was this transfer from the original association to the Construction Company made? I understood you to say that the concessions.

S. Doc. 231, pt 4——25

sions were first transferred to the Construction Company by the association.—A. Yes.

Q. Now, when was that !—A. It was in September, 1887. Q. Was that in writing !—A. That is my impression, yes.

Q. Have you got the books here which show the entries and engagements, etc., on which the transfer from Menocal and his associates to the Construction Company was made?—A. Not to my knowledge.

Q. Are you a member of the Construction Company !-A. I am a

member of the Construction Company, yes.

Q. You are not an officer !—A. No, sir. I left New Hampshire yesterday morning and do not know what papers have been brought here. As I said, all the books and papers of the association are in the custody of the late secretary.

Q. Yes, the books and papers of the Maritime Company and the Construction Company are in the possession of the officers of the com-

pany !-A. Yes, sir.

Q. You being president of one company and Mr. Miller of the other !-

A. Yes.

Q. Mr. Miller, have you the books and papers showing the transfer of Mr. Menocal's rights?

Hon. WARNER MILLER. We have the papers all here.

Q. Are you willing to produce them so that we can see exactly what the transaction was ?—A. Mr. Mason will produce all the papers.

Q. I suppose the papers will show exactly what this transfer was !—A. Yes.

Q. That, you say, Mr. Hitckcock, was in 1887?

Mr. HITCHCOCK. September, 1887.

Q. Now, when was the first engagement made between the Maritime Company and the Construction Company ?—A. The first engagement between the Maritime and Construction Company was made very near, in fact, immediately after the organization of the Maritime Company, which was in May of last year, 1889.

Q. Were those engagements in writing, by contract, or by corre-

spondence !- A. They were in writing by correspondence.

Q. Are all the undertakings between the two companies in writing !—

Q. There are no private contracts or correspondence, then, that do not appear in your books and papers ?—A. Not at all.

Q. I suppose the Construction Company has its separate books; these

entries will appear in two sets of books?—A. Yes.

Q. What was the nature of the engagement you made with the Construction Company ?—A. The same that I mentioned the other day.

Q. Was there any other engagement between the two companies except what you stated the other day !—A. As I stated to the committee then, the two companies had practically made an agreement, but it was not signed and it could not be signed for the reason I gave; and that is, we could not tell how many bonds to put into that contract, and the matter had been held under advisement for that reason.

Q. Where is the engagement to which you referred, in answer to Mr. Sherman, as an obligation on the part of the Maritime Company to issue nineteen millions of stock. We can see as far as the concessions go how much goes to the Governments of Nicaragua and Costa Rica, but in respect of what you say you give the Construction Company of your stock?—A. That was a purchase by the Maritime Company from the Construction Company of the two concessions which the Con-

struction Company then owned under its purchase from the association.

Q. Yes, it was a purchase of a paper transaction !- A. Yes.

- Q. Did it precede or follow this temporary working contract that you showed us the other day?—A. It was the same day, if I remember right.
- Q. Did you say anything about that to us the other day when you were here?—A. No, sir; not at all.
 - Q. Did you say it was in writing?—A. Yes, sir; it was in writing. Q. And was put in writing at that time, I suppose?—A. Yes. That
- Q. And was put in writing at that time, I suppose !—A. Yes. That was a purchase by the Maritime Company from the Construction Company.

Q. Does that appear by the books of your corporation?—A. It does. Q. And I suppose in the books of the Construction Company?—A.

Yes.

Q. Well, it is rather unfortunate that so important an item was left out the other day.—A. It is unfortunate. It did not occur to me, and I was not asked a question about it, It was a purchase of those concessions by the Maritime Company of the Construction Company.

Q. Yes, but it was purchased, as you say, in round numbers, for

\$12,000,000 ?-A. Yes.

Q. And you had engaged to pay it in stock !- A. Yes, sir.

Q. And I asked you how much stock you had out and you said 10,145

shares !- A. Yes.

Q. And here was an obligation of the company you did not disclose, amounting to an engagement to deliver \$12,000,000 stock paid up to the construction company?—A. That is true, but the stock had not been issued, and I was asked how much was issued, and confined myself to that question. I had no desire to conceal anything.

Q. You were coming on here so rapidly to-day I suppose you were

not able to bring the books of your company?

Mr. ALEX T. MASON. I brought them with me, and have them here

(producing them).

Q. Then let us see the entries as to the purchase of these concessions. This book you now produce is the record of the meetings of the executive committee of the Maritime Canal Company?—A. Yes, sir.

Q. That is the company chartered by Congress ?—A. Yes, sir.

Q. Now this begins on the 24th of May. That is the same date you refer to. Now come to that part of it. I will just read this. It shows a meeting on the 24th of May. Present, Messrs. Hitchcock, Mason, Hotchkiss, and Daly, of the executive committee. In the absence of Mr. Billings, Mr. Hitchcock was appointed chairman.

The Secretary then read a communication received from the Nicaragua Canal Construction Company offering to assign to the Maritime Canal Company of Nicaragua for valuable considerations the concessions of the Governments of Nicaragua and Costa Rica, which were assigned to said Construction Company by the Nicaragua Canal Association. Mr. A. C. Cheney and Mr. H. C. Taylor attended the meeting of the committee to present the views of the Construction Company as to the consideration which should be paid by the Maritime Canal Company for the proposed assignment of the concessions. After some discussion the representatives of the Construction Company withdrew for consultation, and subsequently presented the proposition of their company as finally agreed upon and embodied in the following resolution:

withdrew for consultation, and subsequently presented the proposition of their company as finally agreed upon and embodied in the following resolution:

Resolved, That the President be and he hereby is authorized and directed to notify the Maritime Canal Company of Nicaragua that this company will transfer and assign to the said Maritime Canal Company the two contracts or concessions granted by the Republics of Nicaragua and Costa Rica, respectively, together with all the rights, powers, privileges, property, benefits, advantages, and franchises of every nature and kind whatsoever which this company as assignee of the Nicaragua Canal Association has in, to, by or under said concessions, and also all the data in its pos-

session relating to surveys, explorations, reconnaissances, and estimates, which are now in its possession, for the sum of 12,000,000 dollars in full paid up shares of the capital stock of the Maritime Canal Company of Nicaragua.

On motion of Mr. Daly, seconded by Mr. Hitchcock, the following resolutions were

unanimously adopted:

Resolved, That the proposition of the Nicaragua Canal Construction Company for the transfer and assignment of the Nicaragua and Costa Rica concessions to this company be and the same is hereby accepted upon the terms and conditions therein set forth: Provided, however, That it is understood and agreed that the concession granted by the Republic of Costa Rica is accepted by this company upon the condition that nothing therein contained shall be construed to affect the sovereignty or proprietary interests of the Republic of Nicaragua so far as the same may have been established by the treaty of April 15, 1858, between the Governments of Nicaragua and Costa Rica; And be it further

Resolved, That the president and secretary are hereby authorized to execute, under the corporate seal of this company, such agreements as may be necessary to complete the transfer and assignment of said concession upon the terms and conditions aforesaid, and also to deliver over to said the Nicaragua Canal Construction Company, upon receiving the proper deeds of transfer, (\$12,000,000) twelve millions dollars in

full paid shares of the capital stock of this company.

That goes to the temporary contract or offer to do the work of which we had copies before. Now, Mr. Hitchcock, did you execute the deeds that were mentioned to be executed—papers of transfer?

Mr. HITCHCOCK. Yes.

Q. As separate documents !- A. Yes.

Q. This being merely a minute of the meeting, of what was proposed and what was accepted !—A. Yes.

Q. Now then, where are those documents !- A. They are here.

Q. Just let us see the one by which you have engaged to pay. I want to see when you are to issue the stock absolutely. Were you to issue this stock when they delivered the deed containing the concessions?—A. Yes, the agreement so states, but in view of the questions with reference to issuing stock, as I said before, the understanding was that the stock should not be issued to the company except on the demand of the president of the Construction Company.

Q. Was that understanding in writing !-A. No, sir; it was a verbal

understanding.

Q. But they actually delivered to you the deed transferring the concessions !—A. Yes.

Q. And left you under an obligation not performed !-A. Yes.

Q. On the face of it, you have delivered the stock then and there, I suppose; that is what the resolution says?—A. That might be the construction, I suppose; they have never asked for it.

Q. You were one of the association, you say; how much did the association pay for these same concessions?—A. I can not give you the

exact figures.

Q. Well, in round numbers !- A. Several hundred thousand dollars.

Q. Well, one, two, or three ?—A. I should think, for both concessions, something like half a million dollars, including all the expenses connected with them

Q. What is the character of those expenses, name them !—A. They were cash advances. For instance there was \$100,000 advanced to the Government of Nicaragua.

Q. That was the deposit required !- A. Yes.

Q. Well that is \$100,000?—A. Various expenses of organization, some expenses of preliminary surveys and things of that sort.

Q. Then you transferred them, as you said before, to the Canal Con-

struction Company?—A. To the Construction Company, yes. Q. How much did they pay you for those concessions?

By the CHAIRMAN.

- Q. Let me ask before you answer that—this Construction Company was formed before the Maritime Company, was it?—A. Yes, two years
- Q. Is that the same Construction Company that is now in existence!-A. The same now in existence.

By Senator EDMUNDS:

- Q. Under a Colorado charter ?- A. Yes. I can not tell you all the Construction Company paid, but it paid more than the association paid.
- Q. In what form did it pay it ?-A. They paid it in stock, I think. Q. Stock in the Construction Company ?-A. In the Construction Company; yes sir.

Q. Did they pay any cash?
Mr. Mason. There was no cash payment

Q. When did that transaction take place !- A. I think in August, 1887.

Q. Immediately after the Colorado charter?

Mr. HITCHCOCK. The Colorado charter was in June, and this was August following.

Q. Well, the Construction Company books, I suppose, show just

how much was paid ?-A. Yes, sir.

Q. And what in ?-A. And what in.

Q. You understand it to be something more; were you one of the sellers?—A. Yes, and the payment was in stock. Certain advances were made, but the payment was in stock.

Q. How much stock ?-A. Eleven million nine hundred and ninetyeight thousand dollars. It was paid by the issue of the Construction

Company stock.

Q. Issued to the owners of the concession ?-A. Yes.

Q. Being the gentlemen who you have named and others of the same sort that you have not named ?-A. Yes, sir. What I meant by money advances is that the Construction Company had made advances from time to time. When it was finally settled-

Q. I think you stated before that the Construction Company was

composed of substantially the same gentlemen?—A. Yes.

Q. The Maritime Company, as far as the people composing it are con-

cerned, is substantially the same company ?-A. Yes.

Q. And the concessions having been obtained for half a million dollars the holders turned them over to the company formed under the Colorado charter for an issue to them of \$11,998,000 in stock; how was that precise sum computed? It is an odd sum, being so near to \$12,000,000 ?

Mr. Mason. It was computed in this way: The capitalization of the Construction Company was \$12,000,000, of which enough was subscribed for to effect the organization of the corporation, and the balance was

issued in payment of this charge.

Q. So that what was issued in the form of a corporation and what was turned over for these concessions made the charter amount of the

capital ?-A. Yes.

Mr. MILLER. I would like to have Mr. Mason, who has been the attorney all the way through, make a concise and plain statement from beginning to end so that it will appear just what the transactions were.

Senator EDMUNDS. Yes. I wanted to be sure that at this time I had not forgotten anything Mr. Hitchcock had said, so as not to send for him again. I understand this transaction makes the association the

owner of the whole stock of the Construction Company, being the same

Mr. HITCHCOCK. I join with Senator Miller in the request he makes.

By the CHAIRMAN:

Q. And the \$12,000,000 issued by the Maritime Company to the Construction Company is practically the same amount, is it not?

Mr. HITCHCOCK. Yes.

Q. The stock of the Maritime Company was issued to the holders of the concessions?—A. The holders of the concessions are entitled to six millions or 6 per cent.

By Senator EDMUNDS:

Q. They sold out all that for \$12,000,000 in round numbers. The Construction Company, therefore, have stock of the Maritime Canal Company, chartered by Congress, for \$12,000,000, you all, in substance, being the same body of gentlemen !-A. Practically the parties owning the concessions form these two companies.

Senator Evarts. It never became, as I understand, a matter of transaction and substance until it came to 'the issue of a certain num-

ber of shares in the Maritime Company: is not that so?

Senator EDMUNDS, Yes.

The CHAIRMAN. The Maritime Company paid \$12,000,000 of their stock for concessions and expenses incurred before that time.

Senator Edmunds. Agreed to pay it, and the Construction Company paid \$12,000,000 stock in round numbers to the gentlemen who formed the association, and all the same parties all the way through. Is there anything else, Mr. Hitchcock of any kind as to the obligations of the Maritime Canal Company in respect to these concessions and the work that you have not stated on the other occasion and now?

Mr. HITCHCOCK. No, sir; I do not recall any now.

Q. Then this, in round numbers, now represents the whole and every kind of engagement and liability that the Maritime Canal Company is under !- A. Yes.

Q. And you have described all sort of liabilities?—A. Yes, and I want simply to assure you that there was no intent of reserving anything on my part the other day, but the question did not happen to come up in that form and this was a purchase and sale between the two companies.

STATEMENT OF ALEXANDER T. MASON.

The Nicaragua Canal Association was formally organized on the 3d of December, 1886, by Messrs. Daly, Stout, Hotchkiss, Taylor, Billings, Crowninshield, Hitchcock, Miller, and Menocal, for the purpose of securing from the Government of Nicaragua a concession or grant with all the rights and privileges required for the construction and operation of a ship canal within the limits of that country connecting the Caribbean Sea with the Pacific Ocean, together with all works accessory to or beneficial in the construction or operation of said canal. Articles of agreement were signed by the various members, and Mr. Francis A. Stout was elected president, and Mr. J. W. Miller, secretary. Negotiations were conducted in Nicaragua on behalf of the Nicaragua Canal Association by Mr. A. G. Menocal, and resulted in his obtaining the canal concession now in force. This concession was duly ratified by the Nicaraguan Congress, and was subsequently, on the 24th of April, 1887, approved by the president of the Republic, and on the same day accepted by Mr. Menocal on behalf of the association. The objects for which the association was formed having been virtually accomplished when the concession was obtained, it became necessary for the purpose of complying with the terms and conditions therein contained, and in order to carry on the work of completing the final axial surveys for the location of the caual, to organize a new corporation. Accordingly, on the 10th day of June, 1887, the Nicaragua Canal Construction Company was duly incorporated under the general laws of the State of Colorado with a capital fixed at \$12,000,000.

By the CHAIRMAN:

Q. Can you leave with us a copy of that document (referring to a printed copy of the certificate of incorporation of the Nicaragua Canal Construction Company)?—A. Yes; but I think you have one already

in your possession.

On the 12th day of August, 1887, the Nicaragua Canal Association sold, assigned, transferred, and delivered to the Nicaragua Canal Construction Company, in consideration of the sum of \$11,998,000, in the capital stock of the said construction company, all the rights, powers, privileges, property, benefits, advantages, and franchises of every nature and kind whatsoever which the said association had in, to, by or under the said concession granted by the Republic of Nicaragua, excepting, however, the right to organize the Maritime Canal Company of Nicaragua and the right of representation in the first board of directors thereof. This assignment and transfer included and covered the 6 per cent. of shares, bonds, certificates, and other securities of the said Maritime Canal Company of Nicaragua, to which the association was entitled under the fifty-first article of the concession.

By Senator FRYE:

Q. One moment, please. Did that transfer include the Costa Rican concession as well as that from Nicaragua?—A. No, sir; for at that time the concession from Costa Rica had not been obtained.

After the above transfer had been completed, and the consideration therefor duly paid, the Nicaragua Canal Association turned back into the treasury of the Construction Company six millions of the stock which it had received as a gift for the purpose of enabling the Construction Company to raise, by the sale thereof, the funds that were needed to carry on the preliminary work under the concession, and to complete the final surveys and the location of the canal.

By Senator PAYNE:

Q. This was a donation ?—A. It was a voluntary donation on the part of the association, and the proceeds of this stock, which has been sold by the Construction Company from time to time, have been devoted to

carrying on the work connected with the enterprise.

At the time the sale and transfer above referred to was made, none of the members of the association were members of the Construction Company, but of course they became stockholders in the new corporation as soon as the stock delivered in payment for the concession was distributed. The Construction Company having become the owner of the Nicaraguan concession at once commenced operations on the line of the canal and undertook the work required to be done under article 47 of the concession within the period therein named. this time the association had supposed that the concession granted by the Republic of Nicaragua conveyed an absolute title to the entire route of the canal, but no sooner had the engineering expedition, sent out by the Construction Company, landed at Greytown than the Republic of Costa Rica filed its protest against the construction of a canal over the proposed route without its consent. This protest alleged that, under the treaty of limits of April, 1858, entered into between the respective Governments of Nicaragua and Costa Rica, the latter Republic was the owner of certain rights in and to the port of Greytown and the river San Juan of which it could not be divested by the Republic of Nicaragua without its consent. The questions arising as to the proper construction to be given to the said treaty were referred by both Governments to President Cleveland as arbitrator, and his award, which was rendered on the 22d day of March, 1888, virtually decided in favor of Costa It then became necessary for the association, in order to remove all difficulties which had arisen or might thereafter arise in regard to damage or injury which might be caused to the natural rights of Costa Rica in the construction of the canal, to obtain from that Republic a contract of some kind. Negotiations were accordingly started, and resulted in what is known as the Zeledon-Menocal Concession, which was duly ratified and approved by the President of Costa Rica on the 9th day of August, 1888.

By Senator Edmunds:

Q. That being the concession we have a print of and which is dated

July 31, 1888?—A. Yes, sir; it was approved August 9, 1888.

Q. Yes; that was the final approval by the President.—A. Yes; this concession, as I have already stated, was obtained by the Nicaragua Canal Association in order to perfect its original title to the route of the canal. As the Nicaraguan concession had already been transferred to the Construction Company, the Nicaragua Canal Association, on the 24th day of May, 1889, also transferred the Costa Rican concession to the said Construction Company for the good and valuable consideration already received by it under the contract of August 12, 1887, and for an additional cash consideration to cover the expenses actually incurred by the association in obtaining the new concession. The Construction

Company thus became the absolute owner of both concessions, subject to the terms and conditions therein contained. This was the condition of affairs at the time the Maritime Canal Company of Nicaragua was duly organized under the charter granted by the United States Government.

On the 24th day of May, 1889, the Nicaragua Canal Construction Company assigned, transferred, and delivered to the Maritime Canal Company of Nicaragua the said two concessions granted by the Republics of Nicaragua and Costa Rica, respectively, together with all and singular the rights, powers, privileges, property, benefits, advantages, and franchises of every nature and kind whatsoever which the said Construction Company as assignee of the Nicaragua Canal Association had in, to, by, or under the said concessions. This transfer was made in consideration of the sum of \$12,000,000 in full paid-up shares of the capital stock of the Maritime Canal Company of Nicaragua of the par value of \$100 each. The Construction Company, prior to this time, had completed the final surveys, and was ready to commence in Nicaragua the preliminary work of installation. Owing to the existence of certain difficulties between the Republic of Nicaragua and the company, which had been caused by the granting of the Costa Rican concession, it was deemed of vital importance that work on the canal should be commenced at the earliest possible date, so as to satisfy the Nicaraguan Government of absolute good faith on the part of the company. It was decided, therefore, that work should be commenced at Greytown, if possible, during the first week of June, 1889, and, as the time was too short within which to prepare and execute a permanent contract between the two companies, the preliminary contract which Mr. Hitchcock has already submitted to you on a former occasion, was entered into on May 24, 1889. On the strength of this contract the Construction Company organized an expedition which was immediately dispatched to San Juan del Norte.

By Senator PAYNE:

Q. That was in June?—A. Yes, sir; the expedition commenced work on June 3.

By Senator MORGAN:

Q. Sailed from here on that date?—A. No, sir; arrived down there on June 3. Immediately after the expedition had sailed the board of directors of both companies met and appointed a joint committee, consisting of three members from each board, to consider the question of a permanent contract between the two companies and to report to the respective boards such a proposed document as they might be able to agree upon. This joint committee met two or three times a week for three or four months until a contract was unanimously agreed upon. It was reported by the committee to both boards and was adopted and approved by both companies, and their respective officers were duly authorized to execute the same.

By Senator Edmunds:

- Q. Can you turn to the entries of that ratification and the votes of the boards of directors on that point?—A. Yes, sir [examining book]. Shall I read it?
 - Q. If you please; and give the date.—A. The date is January 2, 1890. Q. Which company's books are you reading from !—A. The minutes
- of the board of directors of the Maritime Canal Company of Nicaragua.
 Q. Now read it.—A. (Reading:) "At the request of the Chairman of

the joint committee upon the contract Mr. Mason presented the draft of a contract which had been agreed upon in committee and directed to be presented to the respective companies as the committee's report. The contract submitted was read to the board and ordered on file. Mr. Fairbanks moved that the report of the committee be accepted and the contract, as read, be approved, and that the president and secretary of the company be and hereby are authorized and directed to properly execute the same when the Construction Company shall be prepared to do the same on its own behalf. The motion was seconded by Admiral Ammen and on vote unanimously adopted."

Q. Now turn to the Construction Company and give us their vote?

By Senator PAYNE:

Q. Was that in January?—A. January 2, 1890. [Reading from book containing the minutes of the board of directors of the Nicaragua Canal Construction Company.] "Resolved, That the contract between the Maritime Canal Company of Nicaragua and the Nicaragua Canal Construction Company as presented and read to the board, be and the same is hereby approved and that the officers of this company are hereby authorized and directed to execute the same and affix the seal of the company thereto." The resolution was passed unanimously.

By Senator EDMUNDS:

Q. That is the 3d of January, 1890.—A. The day after the action taken by the Maritime Canal Company of Nicaragua.

By the CHAIRMAN:

Q. Is not that contract embodied in the minutes?—A. No, sir; it was filed with the secretary of each company.

Q. Have the contracts ever been recorded anywhere or simply placed on your files !—A. Each company has a copy on file.

By Senator Edmunds:

Q. At the meeting on the 2nd of January of the Maritime Canal Company I read here [reading from record book]: "Present, Messrs. Hitchcock, Daly, Hotchkiss, Mason, Ammen, Stout, Darling, and Fair-

banks." That was the meeting, was it not !-- A. Yes, sir.

Q. Now at the meeting on the same day of the Construction Company were present Messrs. A. C. Cheney (in the chair), J. L. Macauley, R. Sturgis, H. R. Hoyt, J. W. Miller, and A. F. Hedges. They were the directors of the Construction Company, and these other gentlemen were the directors of the Maritime Canal Company?—A. Yes, sir. The board of directors of the Construction Company met on the 2d to receive the report of the committee, but did not take definite action on the same until the meeting on January 3, 1890.

By Senator DOLPH.

Q. Have both of these companies by-laws !—A. Yes, sir.

Q. Are they there before you !—A. They are in the minutes.
Q. Will you refer to the provision in the by-laws of each company with regard to meetings, showing when the regular meetings are and

how special meetings are called?

By Senator EDMUNDS:

Q. Which contract is referred to in those two votes?—A. The permanent contract. As I stated, the joint committee which drew it was appointed shortly after the preliminary contract was signed.

Q. And that permanent contract is the same one, then, of which Mr.

Hitchcock the other day gave us a synopsis?—A. I presume that it is the same one.

By Senator FRYE:

Q. Are they at work under the preliminary contract now?

Mr. Mason. The final contract is practically in effect. It has virtually been agreed upon by both boards.

By the CHAIRMAN:

Q. Has it been written out and signed ?-A. It has never been signed by the officers, but the minutes of the Maritime Canal Company show that the officers of that company were authorized and directed to execute it as soon as the construction company was prepared to do the same. The Construction Company has not executed it up to the present time.

By Senator DOLPH:

Q. Now, Mr. Mason, will you read the conditions of your by-laws about meetings?—A. Yes, sir. Article 5 of the by-laws of the Maritime Canal Company of Nicaragua provides:

Regular meetings of the board of directors shall be held on the first Thursday of each month. Special meetings of the directors may be called at any time by the president, or, in his absence, by the vice-president, by causing a notice of the same to be sent by mail or telegraph to each director at least one day in advance of such meeting, and a special meeting of the board shall be called by the president at any time, upon the written request of three directors.

Q. Is there anything providing that a quorum shall be necessary or what shall constitute a quorum ?-A. Yes, sir. The same article provides that at any meeting of the board of directors the presence of a majority of the members of the board shall constitute a quorum-

Q. At all meetings ?-A. Yes, sir.

Q. Now read the provisions of the other company. Which company is that?—A. I have just read from the by-laws of the Maritime Company.

Q. Now state the same as to the Construction Company.—A. Article

6 of the by-laws reads as follows:

ARTICLE VI. Regular meetings of the board of directors shall be held on the third

Thursday of each month.

Special meetings of the directors may be called at any time by the president, or in his absence by the vice-president, by causing a notice of the same to be sent by mail or telegraph to each director at least one day in advance of said meeting, and a special meeting of the board shall be called by the president at any time upon the written request of three directors.

The meetings of the board of directors shall be held at the principal office of the company in the City of New York, or at such other place as the board of directors

may from time to time direct.

Any meeting of the board of directors at which a quorum is not present may be adjourned from time to time by those present as they may direct, and such adjournment shall be deemed to continue in session the meeting so adjourned.

The presence of a majority of the members of the board of directors shall constitute

a quorum.

Q. Was either of the meetings at which this contract was agreed to a regular meeting ?-A. I think so. I know the Maritime Canal Company's was.

Q. That was a regular meeting !—A. Yes, sir.

Q. And the other must have been a special meeting !-A. Yes, sir. Q. Was there a majority of the directors present at both meetings!— A. Yes, sir.

Q. Was notice given as the by-laws require of a special meeting of the Construction Company ?—A. Yes, sir.

Q. Is there any record there or statement of that.

The CHAIRMAN. I suppose it gives the names of the persons present? Mr. MASON. It gives the names of the persons present.

By Senator Dolph:

Q. The entry does not show that due service was given ?—A. No, sir, it simply says at a regular meeting. We are not called upon really, under the by-laws, to give notice of a regular meeting.

Q. Do you know why the Construction Company has not executed this contract?—A. I do not know whether they have finally fixed

upon-

Q. Are there any blanks left in the contract as to the amount of compensation or stock?—A. Not as reported by the committee, no sir.

Q. Nor as agreed to by the company.—A. Nor as agreed to by the company.

By Senator EDMUNDS:

Q. Well, as I understand from these minutes the draught was pre-

sented to these boards of directors !- A. Yes, sir.

Q. Now, did that draught, which the directors at the meeting directed their president to execute, contain any imperfection or blank or other thing to be filled or determined upon?—A. There may have been something in regard to the denomination of the bonds or the rate of interest. There were seven draughts made of the contract before the final report was submitted, and I should have to refer to the final draught.

Q. Have you got the final draught here?—A. Yes, sir. My recollection is that the amounts were all filled in. I have my draught of it.

Q. Is that the final draught?—A. Yes, sir, the final draught. Q. It was drawn up in duplicate I suppose?—A. Yes, sir.

Q. And you have one of the duplicates?—A. Yes; that is to say, this draught I have here is the original draught from which the two copies which are on file with the two companies were made and is identical.

Q. Is this the paper which was submitted to the board of directors?-

A. This is an exact copy of the paper.

Q. I merely wanted to get at the precedence of the order. This, then, is the draught from which the duplicate contracts, ready to be signed, as you understand at any rate, then presented were made?—A. Yes, sir.

Q. So that this paper now in your hands is identical with those

duplicates !- A. Yes, sir.

Q. Now, see if there is any blank there?—A. (Examining paper.) Here is a blank in the date—

By Senator PAYNE:

Q. Those papers were prepared by you, I suppose !—A. Yes, sir. It is the work of the committee, but I acted as the attorney. (Continuing examination of paper.) I do not see any blanks in this copy.

By the CHAIRMAN:

Q. Is that signed by any one at all !-A. This is not signed; no, sir.

By Senator EDMUNDS:

Q. Had you finished making your consecutive statement?—A. I think I have given you all the facts up to the time of the contract.

By the CHAIRMAN:

Q. If there is anything else, now, that bears upon your liabilities or your present condition we would like to have it up to this time. Since that time, under the provisional contract, as I understand, the Construction Company has gone on and done a good deal of work?—A. The Construction Company has been engaged at work since June last. It is practically operating under the permanent contract.

By Senator EVARTS:

Q. That is a very important point. You had agreed by resolutions to a definite contract to be executed by your officers. Now if that rests in abeyance unexecuted, either in form or in substance, it is one thing; but as you now stand, upon that condition of obligations between the companies, your company has allowed the transaction to go on as under the permanent contract, which is different from what it would be if it had been going on merely under the provisional contracts; which is it?—A. Well, I shall have to refer that question to the presidents of the two companies.

By the CHAIRMAN:

Q. Is there any difference in the mode or manner of work or mode of payment between the provisional contract and the permanent contract?—A. Yes; the permanent contract provides for payment in stock and bonds.

By Senator EDMUNDS:

Q. I see here, Mr. Mason, in the fourth head of this contract, which is exactly like the papers laid before the two boards, "that it"—that is the Construction Company—"that it will begin work on this contract on the Nicaragua Canal within thirty days next after the execution of this agreement, and will complete the construction of said canal with its appurtenances and other works and deliver the same to the party of the second part ready for operation on or before October, 1897;" and then goes for other things?—A. Yes, sir.

Q. Now then, if, as you say, this work is now going on under this unsigned duplicate contract that you have described, when does the period of the obligation of the company to begin within thirty days and to end it by 1897 begin to operate?—A. I can only answer that by saying that I understood at the time, and have understood ever since, that when the contract is executed it will be executed nunc pro tunc,

as of the date it was approved.

Q. But the language is "after the execution of this agreement," which, I take it, means the sign manual of the persons authorized to sign. A. Well, I suppose, strictly speaking, that is so; but the board of directors were unanimous in regard to this contract, and although the act of signing it was delayed for one reason or another, it was virtually understood that when it was executed it would be executed nunc protunc as of the date it was authorized.

Q. You say it was delayed for one reason or another. Can you give

any reason ?-A. Personally I know of none.

Q. You are a member of the board ?—A. I am a member of the board of directors of the Maritime Canal Company.

Q. Have you any relations with the Construction Company ?—A. The firm of which I am a member are the attorneys.

Q. Yes, but you are not an officer of it ?-A. No, sir; I am not an

officer.

Q. You are not a director ?-A. I am not in the board of directors.

By Senator PAYNE:

Q. I would like to ask one question about that \$6,000,000 stocks of the association that is retained by them as their personal property; they donated \$6,000,000 to the Construction Company, and it remains with them?—A. Yes; it was distributed to the shareholders of the association. The association has since been dissolved.

Q. How much of the \$6,000,000 stock donated have they disposed of !-

A. I shall have to refer you to Senator Miller.

By Senator EVARTS:

Q. Have any transfers taken place of the \$6,000,000 retained by the original association ?—A. Whether there have been any transfers of that stock I do not know, but I presume there have. It was originally transferred to the shareholders of the association, but whether they have parted with any portion of it I can not say. The transfer books will show that.

By Senator EDMUNDS:

Q. Are you willing we should have a copy of this paper [the contract] for our use and examination?

Mr. MILLER. We would not like to have it published, but have no

objection to leaving it with the committee.

Mr. HITCHCOCK. Mr. Chairman, I would like to say in this connection what I said before, that while the officers of the company are authorized to sign this contract, yet they and the committees of the two companies decided that it was a contract which it might be desirable to submit to the counsel of bankers who propose to take hold of these bonds to see if any change is necessary. In the next place, the questions of duration of the bonds and the fixing of a rate of interest has to be considered, and until those matters are settled it is impossible to fix definitely the sum of bonds and stock to be put into this contract to pay for that work, and that is the reason why the officers have held back from signing this contract, and while, as I stated, it was a contract practically agreed upon, it is an unsigned contract.

By Senator FRYE:

Q. Then the present operations are going on under this contract !-

A. I understand that they are.

Mr. MILLER. I understand they are. Since I became president—of course this all took place before I came in—the outgoing president told me this, and the conditions we were in, and that we were proceeding under the imperfect contract; but by a mutual understanding, which had no record or anything, the actual signing of the contract had been left in abeyance, thinking something might come up in the negotiation of bonds, thinking something might have to be changed and it could be changed better before it was actually signed than it could otherwise; but we were proceeding under the contract as there drawn up.

Senator EVARTS. That would come to this, that if the contract was executed what had been done between the two companies would be

treated as if it were executed.

Senator FRYE. That is, if \$1 was expended \$2 would be expected.
Senator Dolph. As I understand you, Mr. Hitchcock, the consideration to be paid by the Canal Company, which is, in fact, the conditions on your part, is still left open and undertermined; that is, the amount of stock and bonds to be paid under this contract is still undetermined?

Mr. MILLER. Not left open so far as our company is concerned at all,

unless we see fit to re-open it.

Mr. HITCHCOCK. What I mean is this, that the Maritime Company must realize sufficient from its stock and bonds to build this canal, and until it can see a little clearer what it is going to get for its stock and

bonds, we can not tell how much to put into this contract.

Q. Under that contract what would the Maritime Company have to do with the stock and bonds? If the construction work is to be so much stock and so much bonds, the contract being executed, that would be their lookout?—A. Yes, perfectly true. They have consulted our committee, and we have to be consulted as to the duration of the bonds, and they have asked us to consider the market with them.

Q. So that, to come back to my question, the amount, as you understand it, of stock and bonds, that is the consideration to be paid by your company, is still an open matter?—A. It is a matter which we

may see fit to reopen.

Q. Do I understand you to say that the amount, as well as the interest and duration, is open?—A. In the way that I have stated. Until we can see more clearly than we can now about what is to be real-

ized for stock and bonds we can not tell how much to pay.

Q. In other words, the Construction Company is not willing to take a specified amount of the stock and bonds of your company for the work, but that is to be left open until they ascertain what the stock and bonds are to be sold for, so that they can get sufficient consideration?—A. That question can be better answered by the Construction Company.

Q. I merely asked what you thought.

The CHAIRMAN. This is absolutely certain, that Congress will probably not intervene and subscribe for this stock until the amount of the stock and the cost of the improvements are fixed, and probably until modifications are made by the consent of these two contracting parties.

Mr. Dolph. I can not see how.

Mr. MILLER. The considerations are all set out in that contract. We have gone on directly under that contract since I have been president.

By Senator Edmunds:

Q. When did you begin to be president?—A. I came in in February.

Q. That was a month after the meeting of the two boards of directors?—A. About that. There is nothing now that prevents my signing that document to-morrow and calling upon the Maritime Company to sign it.

Q. But I understand you to say now that that contract, to which we refer, is a positive obligation and you are executing it on the part of

your company?-A. I am; yes, sir.

Q. Well, if it is a positive obligation why is not that obligat on just

as difficult to deal with as if it was signed ?—A. It is. As I said, it ought to have been signed. I found it in that condition and so I went on with it.

Q. Then, if we correctly understand you now, speaking as the president of the Construction Company, the contract of which we have been speaking is in force and is in process of execution?—A. Yes, sir.

Q. Just as it reads?—A. Just as it reads; that is my understanding. Q. Then I think it right to say right here to Mr. Hitchcock and you, only speaking for myself alone, that the situation is totally different from what I understood it to be when we had the pleasure of hearing your statements two or three weeks ago, and if your contract is binding there is nothing, as a member of Congress, I wish to do on the subject. It is totally out of any disposition of mine to undertake to go into a scheme that is already committed for \$150,000,000 bonds and \$70,000,000 stock, but, as I say, I only speak for myself.

The CHAIRMAN. To that I will subscribe. So far as any aid is to be rendered by Congress is concerned, the difficulty with me is the \$19,500,000 outstanding. As a matter of course, what Costa Rica and Nicaragua are to get is right under the concessions, but it seems to me, as to your \$12,000,000, there will have to be a re-adjustment of that

matter.

By Senator Edmunds (to Mr. Miller): Let me see if I understand in point of fact as to actual outgoes, leaving out of view for the moment the labor, time, and trouble, and the value of influence and all that, but in actual money. I understand, from Mr. Hitchcock's statement, and perhaps from yours also the other day, and now again from Mr. Hitchcock, that somewhat towards half a million dollars were spent by the gentlemen composing the original association in one way and another to get the concessions. Now, then, since the concessions have been turned over to the Colorado association no cash was paid, but \$12,000,000 in stock. Now, then, the Construction Company, being organized, has proceeded to issue stock of its own and raised money upon it. How much money has it raised?

Mr. MILLER. Well, it has issued no stock except the original——. Q. Yes, how much money has the Construction Company raised !—

A. It issued \$4,000,000 stock at 50 cents on the dollar, and is now issuing the balance of it. It is not all issued yet and not all paid in, but it will have received for its stock about \$3,500,000 turned back into the treasury, and that money is put into the construction of the canal expecting to be recompensed by the Maritime Company by the issue of its stock.

Q. Well that constitutes, then, the whole receipts for this stock of

the company which it has issued at 50 cents?

Mr. DOLPH. And about \$800,000 paid over from the Maritime Company besides?

Mr. MILLER. Yes, that has been paid for work that has been done.

By Senator EDMUNDS:

Q. That was paid for work, but under the permanent contract or how? You say the permanent contract is in force. That did not call for the payment of any cash?—A. That was paid before I had anything to do with it.

Q. Then the total amount of money your company has had up to now has been about \$2,000,000?—A. Just at the present time. Of course there are obligations.

Q. Well, you subscribed for a million dollars stock of the Maritime

Company; did you pay that in cash?—A. Yes.

Q. Where did you get the cash, on the issue of your own stock !—A.

Q. So that that is a part of the \$2,000,000. So that the actual outgo all around down to this time, saying nothing about outstanding obligations, for execution of work is in round numbers \$500,000 for obtaining concessions, etc., by the association and \$2,000,000 besides?—A. That is about it. This other money is coming which——

Q. Yes, and other expenses of construction, I suppose, from day to

day. Is that the substance of the statement?—A. Yes.

Q. How much stock of the Construction Company is now actually outstanding in round numbers; you do not know exactly ?—A. Well, about \$10,500,000, I should think, in round numbers.

Q. And on that there has been paid up 20 per cent., making \$2,000.

000-

Senator FRYE. No, but that includes the \$6,000,000 in the Maritime Company.

By Senator EDMUNDS:

Q. About the whole of the capital stock of the Construction Company is outstanding; how much is the balance unpaid ?—A. About \$1,000,000, perhaps a little more.

By Senator DOLPH:

Q. That is a part of the \$6,000,000 returned !-A. Yes.

By Senator EDMUNDS:

Q. Yes, but it comes out of the whole \$12,000,000 of your capital stock, if I am right. Now, then, how much of this outstanding stock of your company which is in the hands of stockholders or anybody else is subject to assessment !—A. It is not subject to assessment at all except as it is sold. When it was sold, the stock sold at fifty cents on the dollar, was paid in installments.

Q. Yes, but a man having paid \$50 would get a full paid share!—

A. Yes.

Q. So that none of the stock is subject to further assessment?—A.

Mr. MILLER. In reference to Judge Edmunds's statement that he thought my statement varied from that of the other day, I have not gone over it carefully, but I do not think so. I stated in regard to the contract that the permanent contract had been completed as substantially made, that there were only some minor points left open. By left open I meant there was a general understanding between the two companies that if it became necessary to change it we could change it; that is, it was not one of those contracts that if Congress stepped in and wanted to do something we could not change the contract and make it satisfactory, or if a set of bankers came in and said we want this or that rate of interest, the change could not be made. That was my meaning at the time, but I stated distinctly that the main contract was substantially made as I understood it. So far as the Construction Company was concerned, if the Government wanted to come in and take stock or guaranty the bonds, I had not any doubt that satisfactory arrangements could be made that this contract could be changed by the consent of

Senator EDMUNDS. The only remark I intended to make was that the situation as it now appears to me is entirely different from what I understood it.

Adjourned.

FIFTY-FIRST CONGRESS, SECOND SESSION.

[See pp. 105, 107, 135, 139, 141, 187, 410, 415, 457.]

February 12, 1891.

[Senate Report No. 2234.]

Mr. Edmunds, from the Committee on Foreign Relations, submitted

the following report:

Your committee beg leave to report back the accompanying resolution of the Senate with the information therein required, as furnished by the officers of said Maritime Canal Company of Nicaragua and Nicaragua Canal Construction Company, except so far as appears in the evidence already reported, the most material part of which is appended hereto.

> IN THE SENATE OF THE UNITED STATES, February 6, 1891.

Resolved, That the Committee on Foreign Relations be directed to request of the Maritime Canal Company of Nicaragua a list of the stockholders of the company from its organization until now; and that said committee be also directed to ascertain, if practicable, whether the work already done in and about the Nicaragua Canal has been done by a construction company, and if it has so been done, the name of such company; and if said work has been done by a construction company, that said committee be directed to procure, if practicable, copies of all contracts between such canal company and such construction company, together with a list of the officers and stockholders of said construction company from its organization until now.

Attest:

Anson G. McCook, Secretary.

THE MARITIME CANAL COMPANY OF NICARAGUA, New York, February 11, 1891.

DEAR SIR: I have your favor inclosing copy of the resolution adopted by the Senate of the United States as follows:
"Resolved, That the Committee on Foreign Relations be directed to request of the Maritime Canal Company of Nicaragua a list of the stockholders of the company from its organization until now; and that said committee be also directed to ascertain, if practicable. whether the work already done in and about the Nicaragua Canal has been done by a construction company, and if it has so been done, the name of such company; and if said work has been done by a construc-tion company, that said committee be directed to procure, if practicable, copies of all contracts between such canal company and such construction company, together with a list of the officers and stockholders of said construction company from its organization until now.'

In response permit me to say that herewith is a list of the stockholders of this company from its organization until now; that the work already done in and about the Maritime Canal has been done by the Nicaragua Canal Construction Company; that the terms of all contracts between the Maritime Canal Company of Nicaragua and the Nicaragua Canal Construction Company were fully stated by the presidents of those companies to the Committee on Foreign Relations, and it was understood from the committee that the statements were entirely satisfactory, and I understand they are incorporated in the report made by the committee to

the Senate.

I will be pleased to furnish copies of these statements if you deem it necessary, and if there is any other information I can furnish I will be glad to do so.

That part of the resolution requesting the list of officers and stockholders of the Nicaragua Canal Construction Company I have referred to the Hon. Warner Miller, the president of that company, who will send the list to you.

Very respectfully,

HIRAM HITCHCOCK, President.

Hon. JOHN SHERMAN. Chairman of Committee on Foreign Relations, United States Senate. List of shareholders of the Maritime Canal Company of Nicaragua, February 11, 1891.

Share	3. 1	8	hares.	Shares.
Charles P. Daly		Bryan	ő	Henry R. Hoyt, treas-
Henry R. Hoyt	5 Horac	lo Guzman	ĭ	urer Nicaragua Canal
Robert Sturgis		s H. Stebbins	5	Construction Com-
Alexander T. Mason		Aldige	5	
Francis A. Stout		ian Devries	5	
Horace L. Hotchkiss		as B. Atkins	5	
Henry C. Taylor		e O. Glavis	10	
Albert C. Cheney		E. Knowlton	10	Charles P. Treat 250
Hiram Hitchcock		rick B. MacGuire.	10	Nicaragua Canal Con-
Franklin Fairbanks		L. Sweet.	. 10	struction Company 7,859
Alfred B. Darling		m C. Seddon	1	
James Roosevelt	5 A. R.	Fichenor	5	Stock issued, but not yet
Daniel Ammen		ia N. Taylor		delivered.
A. S. Crowninshield	5 Thoma	s C. Williams, jr.	10	
Jacob W. Miller	5 Thoma	s C. Williams, jr.,		Nicaragua Canal Con-
Frederick F. Thompson.	5 exec	utor	30	struction Company:
George H. Robinson		a K. Brownson	50	For concessions 120,000
Gustav E. Kissel	5 Walter	W. Queen	10	For construction.
Joseph E. McDonald	5 Franci	s C. Harder	1	under contract
C. Ridgely Goodwin	5 A. Q. I	Keasby	10	January 3, 1890 20,000
Edward F. Beale		can Contracting		Republic of Nicaragua
Frederick Billings		Dredging Com-		under article 50 of
Aniceto G. Menocal	5 nany		1,500	concession 60,000
Robert A. Lancaster	5 T. W.	Bennett	3	00,000
Henry A. Parr		loss .	3	210, 145
J. F. O'Shaughnessy		m O'B. McDonald	100	W10, 110
o. r. O Bhaughnessy	O) AA HITTER	m O D. mcDonaiu	100	

OFFICE OF THE NICARAGUA CANAL CONSTRUCTION COMPANY, New York, February 11, 1891.

DEAR SIR: In answer to your favor, and at the direction of Hon, Warner Miller, I inclose herewith a list of the stockholders of the Nicaragua Canal Construction Company. The list is, I believe, accurate, and a list of the stockholders up to the present date.

The officers of the Nicaragua Canal Construction Company from the date of its

organization down to the present time are as follows:

In June, 1887: Allen F. Hedges, president; Philip Tabb, vice-president; Daniel G. Jeffers, secretary and treasurer.

In October, 1887, the following officers were elected: Francis A. Stout. president; Henry C. Taylor, second vice-president; Horace L. Hotchkiss, treasurer; Jacob W. Miller, secretary.

In June, 1888, the following officers were elected: A. C. Cheney, president; F. A. Stout, first vice-president; H. C. Taylor, second vice-president; H. L. Hotchkiss, treasurer; J. W. Miller, secretary.

In June, 1889, the following officers were elected: A. C. Cheney, president; H. C. Taylor, first vice-president; J. W. Miller, secretary: Edward Holbrook, treasurer. In March, 1890, the following officers were elected at a special meeting: Warner

Miller, president; H. R. Hoyt, treasurer; A. C. Cheney, first vice-president. In July, 1890, the following officers were elected, and they are still officers of the company: President, Warner Miller; vice-president, A. C. Cheney; secretary,

J. W. Miller; treasurer, H. R. Hoyt.

I think that this, with the accompanying list of stockholders, complies with your request.

Yours, very truly,

HENRY R. HOYT.

Hon. JOHN SHERMAN. Chairman of the Committee on Foreign Relations, United States Senate.

List of stockholders.

D. G. Jeffers, Carrington Williams, James Pleasants, S. G. Wallace, Philip Tabb, Bela M. Hughes,

Marshall M. Gilliam, Preston Cocke, Miss Nannie C. Gordon, J. H. Archer, Basil B. Gordon, Benjamin P. Alsop,

Francis A. Stout, F. F. Thompson, J. T. & B. Haxall, John L. Williams & Son, H. C. Taylor,

List of stockholders-Continued,

E. B. Meade, Chas. K. Harrison, Thos. Atkinson. Minnie I. Guilbert, Daniel Ammen, Emily Hanewinckel, Allison & Addison, Robt. F. Williams & Co., J. Aldige, J. Aldige, jr., Wm. P. Anderson. Frederick Billings, E. F. Beale. Wyndham R. Meredith, Jos. Bryan, Wm. S. Dashiele, Richard L. Brown, J. Willcox Brown, W. H. Brownson, Mrs. W. H. Brownson, Thos. M. Gale, John F. Bransford, Mrs. Ellen R. Palmer, A. C. Cheney, Octavius Cohen & Co., Philip E. Sacken, A. B. Cornell,
A. S. Crowninshield,
J. B. Duckworth,
Lucien B. Tatem, A. B. Darling Christian Devins. Lincoln Kinnicutt, J. H. Ellerson. Marcellus Smith, Chas. D. Fisher, John W. Gordon, Chas. D. Fisher and H. A. Parr. Chas. C. Glover, Jarlinah R. Carson, James H. McMullan, Edmund H. Smith, R. L. Edwards, James Greig, Philip E. Arcularius, C. H. Capen. Samuel M. Hopkins, William Rowland, H. C. & J. H. Calkin, Mary L. Hotchkiss, John C. Soley, Edward Q. Keasbey, Gamaliel Bradford. Wellington Downing, Sarah R. Dexter, Hoffman Miller, R. C. Blackwell, Thos. Read. Frederick D. Grant, Edmund Guilbert. Myra R. Hotchkiss, Cornelia B. Hotchkiss, William Greason, Mrs. Mary E. Smith, Gardner Weatherbee,

Robert Garrett. T. Harrison Garrett. C. Ridgeley Goodwin, R. Powell Dunn, George O. Glavis, John L. Hammond, Woolsey R. Hopkins, J. G. Harvey. Mary H. Haldane, H. C. Highet, R. A. Lancaster, E. R. Lancaster. William H. Lucke, B. Alsop, Grosvenor P. Lowrey and F. A. Pellas, Charles F. Stone, Henry Flinch, José Pasos, J. C. Huesto Godfrey Kissel, McDonald & Bright, J. J. Montague. Charlotte A. Kissel, J. W. Miller. Alfred E. Mills, Norman Henderson, A. G. Menocal, M. J. O Shaughnessy, A. Obrig,
Thomas H. Nuckles,
R. E. Peary,
J. Hanier Blair,
T. William Pemberton, Hallie W. Daniel, Henry A. Parr, William L. Scott. James Roosevelt, Alfred M. Hoyt, John W. Riely, F. M. Boykin, G. H. Robinson, Aquila Rich, C. H. Stebbins, Warner Miller, R. L. Harrison, Percy L. Klock, T. R. Chaney, Marquand & Parmly, William D. Goodwin, Elizabeth T. Goodwin, M. Frank, J. Clark McGuire, Margaret M. Hotchkiss, J. F. O'Shaugnessy, James S. Thurston, Simon Fatman, J. F. Minis Gerald B. Owen, C. B. Tedcastle, E. Urquhart, Mailler & Querean, James W. Allison, L. Laflin Kellogg. Hiram Hitchcock, William H. Seward. E. R. Lancaster, agent, Henry Hentz, Latham, Alexander & Co., Thos. J. Treadway,

Charles P. Daly, J. W. Miller, trustee, Alexander T. Mason, J. M. Macias.
Frederick B. McGuire,
Henry R. Hoyt,
Thos. S. Sandford,
R. D. Evans, Mrs. Clara T. Hotchkiss, Robert E. Taylor, Mary V. Taylor, Minnie V. Stebbins, Emily M. R. Stout, Franklin Fairbanks, José Pasos, J. C. Hueston, J. F. Medina, Wickham Hoffman, Thos. F. Jeffries, John Pope. Henry F. Picking, Frank A. Davenport, Robt. E. Taylor, attorney, R. E. Taylor, Douglas Taylor, Oliver H. Broth, John P. Ambler, O. D. M. Baker, Henry Titlamer, D. M. Taylor. R. A. Roberts, Homer E. Briggs, John R. McLean, H. P. Churchill, W. F. Herbert. Loyall Farragut, Alex. Pollock, Joshua Wilbour. A. R. Tichenor, Thos. Russell, Farmers' Loan and Trust Co., custodian, Am. Contracting and Dredging Co. W. A. Miles. Mrs. M. Grace Richardson, Miss C. Augusta Stevens, C. H. Haskins. Molly R. Haskins, F. W. Bennett, Wm. O'B. McDonough, Thos. S. Wheelwright, H. O. Moss, Joseph D. McGuire, Estate T. C. Williams, John R. West, Henry R. Hoyt, treas, George Williams, Henry G. Burleigh, Clarke Dunham. James G. Dagron, J. B. M. Grosvenor, W. A. Price, Michael Howe,

List of stockholders-Continued.

Edward L. Molineux, W. H. Starbuck, Chas. W. Cox, W. H. Rockwood, Lucius Pitkin, E. W. Lancaster, D. J. Garth, James H. Young, Herbert Valentine, Horace Moody. Ellen F. Pitkin. William C. Seddon, James N. Dunlop, Lancaster & Lucke, N. D. Lancaster, Gustave E. Kissel, Eva Ammen, Mathilde Ammen, Frederick Van Zant, Joseph L. Sweet. Fred G. Sacken, jr. P. H. Gibson, A. B. Andrews, Daniel K. Stewart, H. L. Hotchkiss & Co., Hiram Hitchcock et al., as Frank Heywood, trustees, William O. Allison, Eben Wight, J. L. Macaulay. Sherrard R. Tabb. E. K. Victor, L. W. McVeigh, James W. Gordon, Viola M. Devins, Chas. Watkins, James Lyons, James M. Ball, R. Young, Julian F. Skelton, Mrs. C. R. McVeigh. Marianne E. Skelton, Annie A. Skelton, George W. Anderson, J. E. Cox, R. F. Knoedler, Wm. H. Allison, Thos. B. Atkins, Chas. C. Allen, R. S. Archer, Geo. W. Bunce. Jennie B. Baker. N. W. Bowe, C. W. Branch & Co., Walter Blair, Chas. E. Bolling, Edwd. R. Bell, H. K. Bush. Brown, Samuel N. Brown, R. S. Bosher, Mrs. Mary C. Beatz, Helen P. Barstow, John E. Bugbee, P. H. Bevier. Emily Blackwell, E. J. Burevind,

H. L. Hotchkiss, jr., Henry E. Howland, Alfred T. Harris, sr., R. L. Cutting, C. P. Kirkland, Robt. Sturges, Smith M. Weed, Edward Holbrook, Alfred H. Smith & Co., Chas. H. Davis & Co., H. L. Hotchkiss, N. K. Fairbanks, J. R. Beal, Wallace Mason, J. A. Bostwick. Otto J. Boessneck, James H. Rodgers, Samuel W. Very, Thomas Potts. J. Triplett Haxall, Barton Haxall, A. J. Macaulay, Jeannie T. Kingsley, William G. Inglis, Alfred Heywood, Maria W. Hopkins, Edward S. Wheeler, John C. F. Gardner, Irving W. Pope, Virginia N. Taylor, Pearce Barnes, T. C. Williams, jr.. T. C. Williams, jr.. extr., Geo. E. Knowlton. Isabella K. Brownson, Walter W. Queen. J. Herbert Carpenter, Joseph Sears. Henry H. Bates. D. B. Dearborn, Geo. S. Dearborn, Francis C. Harder, A. Q. Keasbey, Mary E. Greene, Wendell Goodwin, Geo. W. Gallie, Henry C. Hall, John W. Handner, Jacob J. Hunker. Chas. B. Hoffman, W. M. Habliston, Marietta S. Hough, Geo, E. Hamilton, M. H. Hartwell, Allen F. Hedges, C. W. Hackett, Harriot & Groesbeck. Elvira L. Johnson, B. A. Jackson, Benj. Kimball, John A. Kasson, James S. Kenyon, Thos. T. Knox,

James S. Hall. Haskins & Co., J. S. Pierson, C. M. Bergsturcer, N. S. Finney, C. P. Treat, Jay O. Moss. Mary C. Leary Henry D. Nicoll. Titus Sheard. Corson & Macartney. Benj. F. Gulan, R. J. Bright, Louis Chable.
Theo. M. Storm,
Thos. O. Hills.
Hugh R. Gardner, José de la Puente, Clavius Phillips. Robt. F. Williams, Louisa A. Crosby, Peirce Crosby Thos. C. Williams,
W. B. Williams,
M. L. Carrington,
A. B. Crane,
W. C. Lancaster,
Geo. Uppington, J. G. Eick, Arthur Servall, Geo. Blandy J. H. Breslin & Co., Edgar Archer, J. E. Grannis, J. Loncheim, S. C. Blodget, jr., Mrs. Sophie G. Casey, H. F. Merritt, John L. Williams, John C. Calhoun, Wm. H. Christian. E. C. Minor, John A. Lancaster, Isaac Read. James Christie, W. C. Preston, John M. Patton, James J. Phelan, Thos. A. Rich, trustee, J. N. Robbins, M. V. Randolph, Helen C. Stevens, Ella T. Smith, Joseph H. Sterling, A. H. Speake, W. C. Spencer, C. S. Sutherland, C. H. Sheldon, jr., J. U. Starkweather, Mrs. L. E. Stuart, Gilbert M. Spier, jr. Augustus D. Shepard, John B. Simpson, Robt. W. Thrupp, Sam. Thonn et al., trustees,

List of stockholders-Continued.

F. Billings, estate of, Frances S. Bridge, Edwin G. Booth. Louis P. di Cesnola, Helen Culver, Dan. Crawford & Sons, John N. Crawford, trustee. Jose M. Munoz, E. D. Christian, B. T. Cable, L. C. Castleman, Parker C. Chandler, H. L. Cabell, John J. Cain, Michael J. Coffey, A. H. Christian, jr., Albert O. Cheney, John A. Coke, Joseph Dorr, F. N. DuBois, Louisa Q. Davis, E. S. Davis, E. A. Darling, Joseph Davol, James Edmiston, James R. Ellerson, Max Finley, Chas. E. Furlong, H. W. Fenner, W. H. Gilshenen.

Geo. Lamb, L. Z. Leiter, H. W. Ladd, Lancaster & Lucke, agts., R. A. Lancaster & Co., R. A. Lancaster, jr., C. H. Morse, F. A. McGuire, Julia E. S. Motley, John B. McPhail, jr., Max Moser, Emily N. McGuire, Elvira G. Menocal, T. N. Motley Wilhelmus Mynduse, Richard H. Meade, Eugene C. Massie. Richard S. Newcombe, Alice E. Nutt-Wise, Chas. D. Owen. Frederic D. Philips, J. F. Perez, A. D. Provand, W. H. Pope, W. A. Peck, Richard Paillon, Josephine D. Peary. Edwd. H. Peaslee.

E. D. Taussig,
T. H. Tingley,
T. M. R. Tallcott,
Chas. N. Vilas,
Chas. N. Vilas, trustee,
Anna C. White,
Hunter Wykes, T. Woolverton, H. A. Willard, J. I. C. Walker, G. A. Walker, John G. Walker, Annie R. Walker, Florence M. Wa. wick, James Woodrow. Nathaniel Wilson, T. S. Young. jr., Leander Beal. Martha E. French, Rufus S. Frost. S. R. Franklin, Geo. Hutchinson John J. Hopewell, L. C. Ledyard, W. H. Mailler, Wm. S. Nelson, Geo. P. Scriven, Jeremiah Williams.

PROVISIONAL CONTRACT.

OFFICE OF THE NICARAGUA CANAL CONSTRUCTION COMPANY, 44 Wall Street, New York, May 24, 1889.

The MARITIME CANAL COMPANY OF NICARAGUA.

GENTLEMEN: The Nicaragua Canal and Construction Company hereby offers to do the entire work of every kind and nature of constructing the interoceanic canal to be built by your company, and in accordance with the plans of A. G. Menoral, as approved on the 9th day of March, 1889, by the board of civil engineers to whom the same was submitted for examination, and also according to any modifications or changes that may hereafter be made in said plans which do not substantially vary from the general route as now laid down in Mr. Menocal's plans or increase the expenses of constructing the same, and to begin the work at once and to complete the same in all respects as required by the stipulations and conditions in the concessions held by your company, for the sum of \$200,000,000 in the first-mortgage bonds of your company and \$75,000,000 of the capital stock, payments to be made in equal proportions of stock and bonds every thirty days for such portions of the work as the engineers of your company shall certify have been completed, the work to be begun at once.

As a guaranty of good faith this company hereby agrees to subscribe for \$100,000,000 of the stock of your company, and to pay for the same in cash.

Yours, very truly,

A. C. CHENEY, President of the Nicaragua Canal Construction Company.

I, Thomas B. Atkins, secretary of the Maritime Canal Company of Nicaragua, hereby certify that the foregoing is a true and correct copy of a letter received May 24, 1889, by the Maritime Canal Company of Nicaragua from the Nicaragua Canal Construction Company.

Witness my hand this 3d day of June, 1890.

THOMAS B. ATKINS, Secretary. THE MARITIME CANAL COMPANY OF NICARAGUA, 44 Wall Street, New York, May 24, 1889.

To the NICARAGUA CANAL CONSTRUCTION COMPANY:

GENTLEMEN: Your offer to begin at once the construction of the Nicaragua Canal

is at hand.

You are hereby authorized and directed to begin such construction work at the earliest possible moment, with this understanding and agreement: That if within three months this company does not accept your proposition or execute a contract with your company that shall be mutually satisfactory, then, in such an event, this company will reimburse your company for all the expenditures incurred in connection with the construction work and 10 per cent in addition thereto.

Yours, very respectfully,

HIRAM HITCHCOCK. President of the Maritime Canal Company of Nicaragua.

I. Thomas B. Atkins, secretary of the Maritime Canal Company of Nicaragua hereby certify that the foregoing is a true and correct copy of a letter delivered by me May 24, 1889, to the president of the Nicaragua Canal Construction Company. Witness my hand this 3d day of June, 1890.

> THOMAS B. ATKINS, Secretary.

OFFICE OF THE NICARAGUA CANAL CONSTRUCTION COMPANY. 44 Wall street, New York, May 24, 1889.

HIRAM HITCHCOCK, Esq.,

President of the Maritime Canal Company of Nicaragua.

DEAR SIR: I beg to acknowledge receipt of your letter of the 24th instant, authorizing and directing this company to begin the construction of the Nicaragua Canal at the earliest possible moment upon terms and conditions therein stated.

In reply, I beg to advise you that this company will, in compliance with your directions, commence the work of constructing the Nicaragua Canal at once; and to that end will dispatch an expedition to Nicaragua on the 25th instant.

Very respectfully, your obedient servant,

A. C. CHENEY. President of the Nicaragua Canal Construction Company.

I, Thomas B. Atkins, secretary of the Maritime Canal Company of Nicaragua, hereby certify that the foregoing is a true and correct copy of a letter received May 24, 1889, by the Maritime Canal Company of Nicaragua from the Nicaragua Canal Construction Company.

Witness my hand this 3d day of June, 1890.

THOMAS B. ATKINS, Secretary.

FIFTY-SECOND CONGRESS, FIRST SESSION.

February 24, 1892.

[Senate Report No. 271.]

Mr. Sherman, from the Committee on Foreign Relations, submitted the following report:

The Committee on Foreign Relations report the accompanying origi-

nal bill with a recommendation that it pass.

At the International Exposition at Chicago, in view of the legal provisions in force in the United States, there will in general be no ground for apprehension on the part of foreign manufacturers as regards the protection of their inventions against dishonest appropriation during the continuance of the exposition.

Another side of the question is, however, now to be considered, upon which considerable stress has recently been laid by prominent foreign manufacturers, and which does not appear to be fully provided for by the laws bearing on this subject. No guaranty is furnished that no claims will be raised at the exposition by third parties, on the ground of patents issued to them in the United States, as regards articles exhibited there for which patents have not been issued in the United States to the exhibitors. In justification of the apprehension felt in connection with this, reference is made to the fact that, outside of America, no adequate knowledge exists concerning each particular patent issued in the United States, and, on the other hand, in Europe, to the fact that American patents are not sufficient to determine who is the real owner of an invention. It is thought to be not impossible for the same invention to be protected, for the benefit of different owners, both in Germany and the United States, without either of the two patentees having necessarily been guilty of illegally appropriating the invention. In like manner it may happen that an article which is patented in the United States is freely sold in Germany, not being patented there. This may happen in other manufacturing countries as well as in Germany, and it is of the utmost importance to all foreign exhibitors to be guaranteed against being held responsible for violating the American patent laws by exhibiting productions that are protected by a patent in the United States, without regard to whether such productions are thus protected in the country of their origin or not.

The apprehensions felt with regard to the protection afforded by American patents may also be felt with regard to that afforded by trade-marks.

There is much cause for questioning the scope and success of an international exposition by reason of the reservation that foreign productions sent there for exhibition only, and not for sale in the country where such exposition is held, may, on the ground of the national laws relative to patents and trade-marks, subject their exhibitors to suits and claims for damages. As far as these laws are concerned, the soil on which an international exposition is held must be considered as extraterritorial, just as it is in respect to exemption from the application of the national tariff laws.

These considerations have had due weight in former international expositions. In some of them care has been taken, by the enactment of special legal provisions, to prevent the presentation of any claims against foreign exhibitors during the continuance of the exposition and within its limits on the ground of patents existing in the country

that has organized the exposition.

It consequently seems very desirable that a law should be enacted providing that no criminal or civil suit shall be brought in connection with the exhibition of articles in Chicago, and that no such articles shall be seized on account of violation of the laws relative to patents and trade-marks, unless the party who claims to be aggrieved is protected by a patent or trade-mark in the country from which the articles exhibited are sent, and it can not be doubted that the failure to enact such a law will seriously interfere with the exhibition by foreign manufacturers of their goods at the Chicago Exposition, or that it will almost wholly prevent the exhibition of the productions of prominent industries, such as electrical goods.

FIFTY-SECOND CONGRESS, FIRST SESSION.

May 10, 1892.

[Senate Report No. 640.]

Mr. Sherman, from the Committee on Foreign Relations, submitted

the following report:

The Committee on Foreign Relations, to whom was referred joint resolution (S. R. 76) to authorize the President to invite certain gov-

ernments to send delegates to the Pan-American Medical Congress, have had the same under consideration and report:

It appears that during the recent International American Conference a proposition was made to secure by diplomatic negotiations the recognition of the diplomas of American colleges by the boards of health and other sanitary authorities in the Latin-American republics and colonies. In many of these American republics and colonies no physician or dentist from the United States can pursue his profession without securing a diploma from some medical institution in that country, or at least passing an examination as to his qualifications, and, although there is an exchange of courtesies between the medical organizations in the United States and those of Europe, no relations have ever existed between such associations in the American republics. As the International American Conference was without sufficient data to discuss this subject intelligently, no action was taken, but it is now proposed by leading physicians in the different countries of America to assemble a congress of American physicians at Washington in September, 1893, and a permanent organization has been effected for that purpose, the general objects being to promote the advancement of medical science in the different countries of America, and especially to deal with maladies and diseases which may be communicated by infection or contagion from one country to The resolution proposes to authorize the President of the United States to invite the several governments named to send official delegates to the congress, and your committee recommend its adoption. Whether any appropriation should be made to aid toward paying the expenses of the congress can be best determined at the next session of Congress.

FIFTY-SECOND CONGRESS, SECOND SESSION.

[See pp. 105, 107, 135, 139, 141, 402, 415, 457.]

December 22, 1892.

[Senate Report No. 1142.]

Mr. Sherman, from the Committee on Foreign Relations, submitted

the following report:

On further consideration of the subject presented in their report of the Fifty-first Congress, the Committee on Foreign Relations recommend some changes in the details of the measure thus submitted to the Senate as a bill of the committee, but they adhere to and recommend the purposes and the general plan of legislation thus presented, and adopt the report then made in support and explanation of the Senate bill, No. 1218.

now reported to the Senate with amendments.

With the progress of events relating to a ship canal through the Isthmus of Darien and, especially, with reference to the recent demonstration that the Panama Canal can no longer be looked to as furnishing the waterway that our communication between the Pacific States and the Atlantic States require as a commercial necessity and national protection, it is manifest that the people of the United States, without division on political lines, or on lines of latitude or longitude, are earnestly demanding that Government aid be extended to the Nicaragua Canal.

It is entirely clear that a work of such magnitude can not be constructed on the credit of any chartered company, at a reasonable cost, nor can this canal be so constructed as to guarantee its impartial use to all maritime nations without the assistance and support of the

United States.

The concessions made by Nicaragua and Costa Rica under which this work is progressing distinctly provided that the canal should be constructed by a company of execution, to be called "The Maritime Canal Company of Nicaragua," with its principal office in New York. The concessionaires were all citizens of the United States, and, in conformity with their concession, they asked the United States for a charter, by act of Congress, to enable them to execute the work described in the concessions of Nicaragua and Costa Rica, which was granted by act of Congress, approved February 20, 1889.

This act of Congress, construed in connection with our treaties with Nicaragua and Great Britain, made this canal, in a practical and important sense, a facility of government in connection with our coastwise trade and our foreign commerce, and as to our postal establishment and the transmission of our troops and munitions of war and

warships from ocean to ocean.

So that it was a clear and specific purpose of the act of Congress that the political control over the Maritime Canal Company of Nicaragua should be retained by the United States while that company should continue to act under that charter.

In this view, the act of Congress provides, in section 6, that—

Said company shall make a report on the first Monday of December in each year, to the Secretary of the Interior, which shall be duly verified on oath by the president and secretary thereof, giving such detailed statement of its affairs, and of its assets and liabilities, as may be required by the Secretary of the Interior, and any willfully false statement so made shall be deemed perjury and punishable as such. And it shall be the duty of the Secretary of the Interior to require such annual statement and to prescribe the form thereof and the particulars to be given thereby.

No corporation, other than one created to promote public purposes, could be reasonably subjected to such requirements, and it is not possible, under a sound construction of the concessions granted by Costa Rica and Nicaragua, either as to their language or proposals, that those Republics could retain to themselves, respectively, in the body of their concessions, as Governments, the right to appoint directors in a mere private corporation.

Three Governments concurring in creating a corporation, in which each may have a special governmental interest or concern; in which each is or may be a stockholder, and entitled to appoint directors, and over whose conduct and destiny each Government exercises, to certain extent, a sovereign control, must by their joint or concurrent act create

a public corporation.

The United States can, in the exercise of its sovereign power, expressly reserved in the charter, alter, amend, or repeal the act of Congress creating a corporation, in which Nicaragua has \$6,000,000 of stock and a director, and Costa Rica has \$1,500,000 of stock and a director, and can limit the entire stock of the company to \$100,000,000. Neither of these Governments can, with due regard to its sovereignty,

afford to consider this as a mere private corporation.

It is quite clear that these Governments admit the right of the United States, under the powers conferred in their concessions, to exercise this governmental control over the conduct and destiny of the Maritime Canal Company of Nicaragua, by participating in the organization of the company and in its control through directors appointed by them, and also by their respective decrees that the work done upon the canal, under the charter granted by the United States, is a full compliance with the conditions precedent upon which those concessions were to become permanent grants.

The committee have, therefore, considered the bill (S. 1218) as a measure relating to a public corporation, and that its provisions are in strict conformity with the concessions of Nicaragua and Costa Rica, owned by the Maritime Canal Company, and also with our treaties with all countries having an interest in the subject of this interoceanic canal.

The controlling facts relating to this work, in its engineering aspects, are stated in the former report of this committee, which is adopted as part of this report. They are not materially altered except in the direction of giving greater certainty that all the apparent doubts and difficulties then existing as to engineering problems are being removed, or minimized by the actual results of work done on the ground.

The work done on the canal in the clearing of timber from the line, in the building and ballasting the railroad through the marsh lands adjacent to the eastern coast, now 11½ miles long, and in deepening the entrance to the harbor at Greytown, has all fallen within the estimates submitted by Mr. Menocal as to its cost, and it does not, as yet, appear that his estimate of the total cost of the canal, viz: \$65,000,000, is likely to be exceeded, when it is completed for traffic, if the money

to build it is provided with certainty, so as not to increase the cost by

unnecessary delays and expenditures.

The most recent report of the president and secretary of the Maritime Canal Company, made to the Secretary of the Interior, and the other documents and statements submitted on the hearings before this committee, authorized by the Senate, in the opinion of the committee

justify the conclusions herein stated.

Under this bill, as amended by the committee, the liability of the United States upon the indorsement of the bonds of the Maritime Company is the same in amount as that contained in the former bill, viz. not to exceed \$100,000,000, at the rate of 3 per cent interest per annum. The time of the maturity of the bonds is changed in the present bill. They are to bear date on the 1st day of January, 1893, and to bear interest from the date of actual issue and mature in 1953, and are re-

deemable at the pleasure of the Government after 1913.

The stock of the Maritime Company is limited to \$100,000,000. this stock \$6,000,000 is reserved to Nicaragua, as paid up stock in its concession, \$1,500,000 is reserved to Costa Rica in its concession, and \$12,000,000 remains in the ownership of the purchasers thereof from the Maritime Canal Company of Nicaragua, it having been issued by that company in payment for the concessions and for all work done and expenditures made and engagements entered into prior to the date of the sale and transfer of the concessions to said company. All the remainder of the stock thus limited, viz, \$80,500,000, is vested in the United States in absolute ownership and without liability to further payment or assessment, in consideration of its indorsement of such an amount of the bonds of the Maritime Company, not to exceed \$100,-000,000, as shall be necessary to complete the canal.

Under this arrangement, and according to the estimates of skilled and impartial engineers, the United States will own at least one dollar of stock in the Canal Company for each dollar of bonds that shall been expended in its construction, with a sinking fund, for which the bill provides, of \$1,000,000 per annum, invested in the bonds of the company or in other good securities at 3 per cent interest. The entire authorized sum of the bonds, if they were all issued, would be paid off by the

sinking fund in a period a little less than fifty years.

It is confidently assumed by the committee that during a period of twenty years after the canal is completed the tonnage of vessels passing through it annually will average 9,000,000 tons, in addition to a

very heavy passenger traffic.

The history of the Suez Canal and the St. Marys Canal, on the lakes, give an almost certain basis for this assumption as to the tonnage that will pass through the canal, which falls far below the estimates of a great number of well-informed commercial men.

This calculation of the committee would yield, in revenues annually, not less than \$9,000,000, at the rate of \$1 per ton, which is less than one-half the toll that is paid on vessels passing through the Suez

Canal.

This revenue of \$9,000,000 would pay the interest on \$100,000,000 bonds (\$3,000,000), the cost of the maintenance of the canal, say \$3,000,000, and would leave \$3,000,000 for the stockholders. But it is not probable that the cost of maintenance would exceed \$1,800,000 per annum.

The revenue of the United States from the canal, on this basis, would more than pay the entire cost of the canal in twenty years if it is all

placed in a sinking fund and invested annually in the bonds of the

company.

Before any bonds of the Maritime Company can be issued under this act, all debts of that company must be canceled, and all contracts for work to be done and all agreements inconsistent with the act are to be rescinded.

To provide an active fund for continuing work now in progress, and increasing it, and for necessary purchases of supplies and material, \$1,000,000 of the indorsed bonds are to be issued to the Maritime Company, to be applied only to such purposes and to be credited on the first audit and settlement of the monthly installments for work done on the canal. The Maritime Company, having surrendered its interest in its entire stock, and being prohibited from issuing bonds or the creation of a debt to raise money, and having put all its property under mortgage to the United States, could not obtain the money necessary to proceed with the work on the canal otherwise than by a provision of this

Some additional guards have been provided in this bill to regulate the expenditures of the company in constructing the canal and to subject them to the constant scrutiny and approval of a board of engineers appointed by the United States. But the United States is to have ten directors, in a board of fifteen, in this company, to be appointed by the President and confirmed by the Senate, and of the other five directors the President, voting the stock of the United States, by his proxy. may choose two.

As the persons selected for this important trust must be men of experience, ability, and high character, the security for the proper use of the subvention of the Government, the honest administration of the affairs of the Canal Company, and the proper adjustment of tolls for the mutual interests of the people and the company, is quite as great as the country would have if the ownership of the canal and the sovereign right to control it and to provide for its direction was in the United States.

It is believed that the peculiar constitution of the board of directors gives safeguards and checks against unfaithful or unwise administration of the canal company and its property that are better than we would have if the United States should own, construct, and operate the canal without the intervention of Nicaragua and Costa Rica and

the other holders of the stock of the company.

The legislation proposed in this bill does not, in the least degree, trench upon the sovereignty, or the property rights, or the political autonomy of Nicaragua or Costa Rica. Neither does it violate any provision of the Clayton-Bulwer treaty with Great Britain or any rights we may have acquired in Costa Rica, or any treaty of the United States

with Nicaragua.

The concessions of Nicaragua and Costa Rica, made to Mr. Menocal and his associates, and all now owned by the Maritime Canal Company of Nicaragua, admit the United States, or any other government, to the full opportunity of acquiring and exercising every right and power of control over this canal that is proposed to be exercised in this amended bill. When we have acquired this power of control over the canal the United States will have no more sovereign power in Nicaragua than now exists under the treaty of 1867 with that Government.

It seems to be justly conceded by the judgment of enlightened men and nations throughout the world that the United States have the natural right to a dominant influence in the control and protection of the canal

through Nicaragua, and that the duty rests upon our Government to see that unjust discriminations shall not be made against any nation in the peaceful use of this great waterway. We are the only power on this hemisphere that can secure such guaranties to the lawful commerce of all nations, and the concessions to which this bill relates, and our treaty with Nicaragua of 1867 provides for our active endeavors to make good that pledge to the world.

This bill neither enlarges nor diminishes our rights or powers, as they exist, nor those of Nicaragua or Costa Rica beyond the express stipulations of their respective concessions, but is in harmony with them and

with our treaty relations with all governments.

The mortgage and statutory lien provided in the bill for the security of the United States, while of little importance because of the control over the operations of the maritime company secured by the ownership of more than 80 per cent of the stock by the United States, is carefully adjusted in the bill in order to make our security, if that is possible, more complete and to remove all grounds for misunderstandings in the future.

The possible difficulties that might attend a strict foreclosure of the mortgage, upon property in a sister Republic, are of little weight when we consider that the concessions on which this bill is based provide for such a mortgage and carry with this provision the equitable

right to such a foreclosure.

It would be in the nature of an impeachment of the honor and integrity of Nicaragua and Costa Rica to anticipate, in our legislation, that either of those States would interpose a national obstacle to the full realization of all that can be justly implied when they permit the concessionaires and their successors to give a mortgage on all the property and all the privileges granted to them, to raise the money to construct a canal of such vast benefit to those States and their people.

The committee refers to this topic only because it has been mooted by some inquiring persons, as a possible objection to the bill, and not because any such question has been intimated by either of those governments. In all dealings between independent nations in matters of this kind something is necessarily left to find its proper adjustment at the time when its solution becomes a practical question for discussion

and settlement.

In this instance, the most painstaking care seems to have been taken by Nicaragua and Costa Rica in their respective concessions, and subsequent legislation, to remove every difficulty that could be anticipated that could stand in the way of this great work, and, in this, as in all their dealings with this subject, they have approved themselves to the judgment of mankind as being just, sincere, and liberal.

[See Senate Report No. 1944, Fifty-first Congress, second session, p. 187.]

FIFTY-SECOND CONGRESS, SECOND SESSION.

[See pp. 105, 107, 135, 139, 141, 187, 402, 410, 457.]

February 4, 1893.

[Senate Report No. 1262.]

Mr. Sherman, from the Committee on Foreign Relations, submitted the following report:

The Committee on Foreign Relations, in obedience to the resolution of the Senate, as follows:

In the Senate of the United States, January 16, 1893.

Resolved, That the Committee on Foreign Relations be directed to inquire what sums, if any, have been expended by the Maritime Canal Company, the Nicaragua Canal Construction Company, or any company allied to either of said companies, in and about the construction of said canal or otherwise, with the items of expenditure, since the accounts of expenditure heretofore rendered to the said committee.

respectfully report:

That under the resolution of the Senate of the 7th of January, 1892, it has continued from time to time to ascertain the amount of money expended for the purpose of the construction of the Nicaragua Canal from the date of said resolution to and including the 1st of February, 1893, all of which is respectfully submitted herewith, and is believed to be as full and accurate a statement of the present condition of the Nicaragua Canal Company, and other companies allied to it, as, from the nature of the work, can be rendered.

HEARINGS BEFORE A SUBCOMMITTEE OF THE COMMITTEE ON FOREIGN RELATIONS OF THE UNITED STATES SENATE, IN RELATION TO THE NICARAGUA CANAL COMPANY, UNDER THE FOLLOWING RESOLUTION OF THE SENATE:

IN THE SENATE OF THE UNITED STATES, January 7, 1892.

Resolved, That the Committee on Foreign Relations be, and is hereby, directed to inquire into the progress that has been made in the work upon the Maritime Canal of Nicaragua, and what are the present conditions and prospects of that enterprise, including in their inquiry any additional explorations or surveys of the canal that have been made since the last report of that committee; and what stocks, if any, have been disposed of, or bonds issued by the Maritime Canal Company of Nicaragua, chartered and organized under the act of Congress approved February 20, 1889, and what amount of money has been actually expended for any purpose, and what contracts for construction or other objects have been made by said company; and for these purposes said committee shall have authority to send for persons and papers, and to administer oaths to persons examined. Said committee is directed to consider and report what, in their opinion, the interests of the United States may require in respect of that interoceanic communication.

Attest:

Anson G. McCook, Secretary.

United States Senate, Committee on Foreign Relations, April 2, 1892.

The subcommittee met at 11 o'clock a. m.

Present: Senator Dolph, Senator Morgan, and Senator Gray, of the committee, and also Senator Higgins.

STATEMENT OF CHIEF ENGINEER A. G. MENOCAL.

By Senator Morgan:

Q. Mr. Menocal, we want to ask you some questions about the Nicaragua Canal, and first I will ask you, at the suggestion of Senator Dolph, if you can say anything about the financial condition of the company?—A. I do not know anything about the financial matters of the company. You know I have been away a good deal, in the first place, and in the second place they are in the hands of Mr. Miller, so that I do not know much about them.

Q. You have recently returned from Europe !- A. Yes, sir.

Q. Was your mission to Europe in connection with this Nicaragua Canal?—A. Yes; to some extent. After being in Nicaragua for about ten months I desired to go to Europe to have a rest, and at the same time to visit the most prominent engineering works of Europe. I did so, and visited the Holland Canal, the German Canal, the Manchester Canal in England, and other smaller canals of very little consequence, in connection with our project. On my return to England I expected to go di-

rectly to America, but was taken ill—was ill with influenza for two months—and when I got well enough I had to be engaged with a commission of engineers who had been appointed to examine the plans for the Nicaragua Canal, with a view of reporting as to the practicability and the cost of the project.

Q. Will you name the members of that Board?—A. Sir John Coode was the principal member. He is the head of the firm of Coode, Son & Mathews. They have already made a report as to the feasibility of the scheme, and have approved the plans presented without any modi-

fication whatever.

Q. Is that report in print?—A. No, sir; the report is not yet in print. Q. To whom was it made?—A. The report was made to Mr. Miller.

Q. It is in the possession of the Construction Company?—A. Yes; but the report is not complete because the investigation was to be divided into three parts. One was the feasibility of the scheme as proposed, another was as to its probable cost, and the other was the probable maximum cost. They have made a favorable report on the feasibility without recommending any material changes, although they were authorized to propose any changes they thought best, and they have also reported that the canal would cost about the estimate made by the engineers of the company.

Q. What is that?—A. That is \$65,000,000. They believe that it can be built inside of that sum; yet that it is but an opinion based on a careful examination of the plans, the quantities and prices in the estimates and the conditions under which the work has to be done. Now they are going through a more careful investigation, checking all the quantities in the estimate in order to prepare a full report on the feasi-

bility and cost of the whole canal.

Q. This seems to be a firm of engineers, as I understand it?—A. Yes; there are no better engineers in England; no men of higher reputation.

By Senator DOLPH:

Q. How came they to make the examination; who employed them?—A. They have been employed by Mr. Miller in connection with other gentlemen. I could not tell you about that. Mr. Miller will be here on Tuesday or Wednesday. I only received instructions from Mr. Miller to meet with these gentlemen and give them all the information I had to assist them in arriving at conclusions.

By Senator HIGGINS:

Q. Off of what data or information, as to qualities of earth to be removed as to excavation, and your troubles with the rocks did this English firm make up their opinion?—A. The first report as to cost was only an approximate one. They said: "If these quantities contained in the estimates of the company are correct"—that is to say, excavation, out of water and under water, dredging in the harbors and in the canal, rock excavation and different kinds of work in locks, dams, etc.—"if these quantities are correct, we believe that the canal can be built for this sum." They have now commenced a thorough investigation of all the works proposed, checking all the quantities, applying in each case the prices which they believe ample for the completion of the works so as to arrive at the whole cost of the canal.

By Senator Morgan:

Q. And they are doing that according to your measurements!—A. According to our plans and measurements. They have examined our plans and satisfied themselves that the surveys are correct.

S. Doc. 231, pt 4-27

Q. Has any engineer been sent by this firm to Nicaragua?—A. No engineer has been sent by them to Nicaragua, but they found an English engineer who had been over the ground and they have employed

him to give them all the information in his possession.

Q. Is he going to make a resurvey over the whole ground of this subject-matter?—A. No. That could not be, because it would take several years to do. They are going to take our plans and calculate from them the amount of work required to complete the canal. They are satisfied of the correctness of the plans and that they have been made sufficiently in detail for the purpose of the investigation.

Q. Were either of these gentlemen of the firm that you mention with you and Mr. Miller when you made a personal examination of this canal line?—A. One of the English engineers who went over the line of the canal with Mr. Miller has been engaged by them to assist in their in-

vestigation.

Q. Now, in order to get that before the committee, I will ask you to go back and detail in your own way fully who composed the party that went over the line of the canal last year, and what months you went over it, and what time you spent upon it?—A. Mr. Miller arrived with his party in Nicaragua, I think, on the 1st of April. His party was composed of two Army engineers, or, rather, two Army officers, graduates of West Point.

Q. Who were they?—A. One was Maj. Dutton, and the other was

Lieut. Howard; also the editor of the Engineering News-

Q. Who was he?—A. Mr. Stauffer, of New York; also two English engineers, Mr. Donaldson and Mr. Gooch. I suppose you want only

those who went over the line?

Q. Yes; I want all the engineers who made any examination.—A. Those I have mentioned were the engineers. It was nearly a year ago and some may have escaped my memory, but those were the most important men who went over the line. In addition to that there were seven newspaper men; we called them newspaper men, but some of them were men who had had a good deal of experience in engineering works. Besides Mr. Miller, two of our own engineers and myself were in the party.

Q. Who of your engineers, in Nicaragua, went over the line?—A. Mr. F. P. Davis, Mr. H. C. Miller, and Mr. Perez went part of the way. I think that is about all that went over the whole line, because the others only went along the sections in which they were employed; so

that they were not really of the inspection party.

Q. This was an inspection party?—A. Yes, sir.

Q. I notice that Maj. Dutton has made a report of his inspection?—

A. I just saw a copy of it.

Q. It has been printed by order of the Senate without the maps. He seems to have maps in the Department which have not yet been sent to us. I have not examined that report, have you?—A. No, sir; I have

not. I only just saw it.

Q. Now, what inspection did this party make?—A. This party spent four days in making a very careful inspection of all the buildings and shops, and all the works in the vicinity from Greytown to the end of the railroad as far as it had then been built, about 9 miles. Also, they examined the dredging plant and saw three of the dredges in operation. They also examined the pier, or breakwater, and, after making these careful examinations in the vicinity of Greytown, took the railroad on the morning of the sixth day and went to the end of the railroad. From there they took the line of the canal and walked over it until they struck the river San Juan.

Q. They struck the river San Juan at what place?—A. Some distance below Ochoa. They wanted to see that portion of the river especially, a little below Ochoa as well as from Ochoa to the lake. There was a steamer waiting for them at that point which they took and steamed up the river to the lake; examined carefully the river at different places.

Q. Did they go on the San Carlos River!—A. No, sir; they did not go up the San Carlos River. They went across the lake and spent three or four days examining the line on the west side. The weather was very pleasant, and as the line was opened almost the whole distance

there was no part that could not be inspected on horseback.

Q. You mean the line had been cleared !—A. It had been cleared by the company most half the distance, and the other half is an open country. A line of the surveyors' pickets were cut through by the surveying parties, and were just as good as any roads you could find in that country.

Q. Now, I will begin at this pier. What is the length of the pier at

Greytown?-A. One thousand and fifteen feet.

Q. Is that pier intended to gain deep water on the south side of it or

on the north side of it !- A. On the west side.

Q. It runs, then, north and south?—A. It runs north and south

Q. Now, you know the depth of water there before that pier was put in !- A. Yes, sir.

Q. What was it then; the depth of the water where the channel is now?—A. There was no water there before the pier was built.

Q. No water at all?—A. No, sir.

Q. How deep is the water across that inlet now?—A. Dredges are working there. I could not tell you exactly at this moment, but I think 14 or 15 feet is the present depth.

By Senator HIGGINS:

Q. At low water?—A. Yes; there is hardly any tide there, not more than 1 foot; some days no tide at all can be observed.

By Senator Morgan:

Q. Well, that pier and the dredge, as I understand, has secured a channel of 14 or 15 feet?—A. Yes. Before we commenced to dredge, this sand bank to the west of the pier had been washed away by the waves, so that we had nearly 7 feet of water before we commenced to use any dredge.

Q. Now, did the pier effect that removal ?—A. Yes; a channel 7 feet

deep was washed out without any assistance at all.

By Senator Higgins:

Q. Why was that?—A. Well, this bank was formed by the drift of the sand due to wave action from east to west. The waves invariably run from the northeast and the constant drift of the sand formed a hook on the east side of the harbor entrance, which hook gradually extended to the westward and finally inclosed the inner bay, converting it into a lagoon separated from the sea by a sand bank about 300 feet wide. The pier has been built nearly normal to this sand spit, its main object being to arrest the drifting sand and thus protect a channel excavated to the west of it. As soon as the pier was started the drifting sands commenced to gather to the east of it, but as the waves passing in front of the pier under construction continued to act on the beach to the west, that portion of the sand bank was gradually carried

away by the wave action to a depth of about 7 feet, the pier in the meantime preventing the traveling of the sand into the new channel. By this process a channel about 7 feet deep and several hundred feet wide was secured from the sea to the inner bay of the old harbor, and lately a lagoon before the pier had reached a length of 500 feet.

By Senator MORGAN:

Q. So that the breakwater arrested the sands coming from the eastward and the waves washed away the beach to the west?—A. To the extent that wave action could have any effect on the bottom. The sea could not scour any more than 7 feet because the waves are not more than 4 feet high.

Q. What was the depth of water in the harbor or basins formerly Greytown?—A. It varies very much, from 5 to 20 or even 22 feet at

places.

Q. Is there a large area of water there?—A. Yes, very large. Most of the area we propose to dredge for the harbor is inside this basin and has an average depth of about 10 feet.

By Senator HIGGINS:

Q. What depth do you propose to dredge the harbor to?—A. Thirty feet.

By Senator DOLPH:

Q. Thirty feet on the bar?—A. We propose to have 30 feet on the

bar, but 34 on the entrance outside.

Q. How far will you have to extend the jetty to get that?—A. About 2,700 altogether, or 1,700 feet beyond the present end of the pier. That will carry down to a depth where there is no wave action on the bottom.

By Senator Morgan:

Q. I will not detain you now to give a description of that jetty, because you have heretofore done so in a very full manner in your reports, but I will ask you whether you can commence the jetties before you commence riving the rock at the foothills of the divide?—A. No, sir; we might mold concrete blocks, but it would be more expensive, and it has always been estimated to build the breakwater from rock from the excavation.

Q. That is, you will put in the rock filling from that supply?—A. Yes,

sir.

Q. That is a line of rock that crosses the canal at the foothills of the mountains?—A. Yes; that is, the foothills we have to cut across in going to the valley of the San Juan.

Q. Now, do you express a confident opinion that 30 feet of water in that harbor and in the bays, and 34 feet outside of it, or the entrance

of it, can be obtained !- A. Yes, sir.

Q. Is it going to be a very expensive work !—A. No, sir; I am sure

the pier itself will not cost a million dollars.

Q. Now, before we leave that, without going into the details about the houses, which you have already reported upon I suppose fully, how many dredges have you taken there fit for service?—A. We have six large dredges fit for work. Some of them have been laid up for some time and may need slight repairs before starting again. Otherwise they are in excellent condition. The machinery is in excellent order.

Q. Now, what machinery or shops have you there for the purpose of repairing these dredges?—A. We have got a large machine shop just erected and fitted with the best tools to be obtained, and also some

tools purchased at Panama with the dredges and we have a small blacksmith shop. We had intended to put up a foundry, but it has not been done vet.

Q. Do you have duplicate machinery?—A. We have a great many

extra pieces.

Q. That is to repair any break that might occur?—A. Yes, sir.

Q. Are these dredges of large capacity?—A. Very large. We have excavated as much as 10,000 cubic yards in twenty-four hours with one of them. They are generally not kept at work day and night, but we have sometimes, and work twenty-four hours is done more economically, and we have been able to extract 10,000 cubic yards and deposit it on the bank.

Q. How do you deliver it on the bank?—A. With iron pipes and

powerful water-jets from the dredge.

Q. So that there is no extra haul in getting material and depositing

it on the banks !- A. No, sir.

Q. Now, how far has the canal been dredged in by these dredges!-A. Not more than half a mile.

Q. What width and what depth?—A. A depth of 17 feet and width

about 220 feet.

Q. What will be the width of that section of the canal when completed !- A. It will be about 300 feet.

Q. What will be the depth?—A. Thirty feet.

Q. So that you have got about, or had then, half a mile?-A. Excavated to a depth of 17 feet, what we call the first cut. The dredges can not make the whole prism of the canal in one cut. The canal will have to go by steps, and we are now on the first step.

Q. Now, to what distance has the canal been cleared, commencing at

the seacoast?—A. On the east side about 10 miles, to Lock No. 1.

Q. Entirely cleared out?—A. Yes, sir.

Q. Is there any clearing on the whole line of the canal that is as heavy as that?—A. Well, I should say not on that side, because we had not only very high timber to contend with and very thick, but also we had the swamp.

Q. That is the swamp of the Deseado?—A. The swamp of the Deseado; all that drain back of Greytown. The swamp commences

only a few hundred feet from the beach.

Q. Well, when you went into that work at the Deseado you expected to find it very difficult?—A. Yes, we did.

Q. Did you find it less difficult than you expected?—A. Oh, yes; the work has been done for one-half, or less, of the estimated cost.

Q. And that runs out, practically, to the foothills?—A. To the foot-

hills at Lock No. 1.

Q. When you get to the foothills where Lock No. 1 comes that line runs north and south, does it not?—A. East and west nearly.

Q. How far is it then westward until you strike the rock?—A. Six

miles.

Q. Six miles farther on before you strike this mass of rock that lies

across the line of the canal?—A. Yes.

Q. Now, passing over the ridge you get to the other side in the direction of Ochoa; what is the general character of the country through which the line of the canal passes after it leaves that pool or lake !-- A. There are three valleys separated and surrounded by narrow ridges with narrow openings where those streams that drain the valleys run through and drain the valleys into the San Juan.

Q. In these ridges do you find any bodies of rock?—A. No; almost

all stiff red clay.

Q. Have you bored?—A. We have taken borings to the bottom of the canal.

Q. That is entirely satisfactory to you as to geological formation?—

A. Yes, sir.

Q. Then the only ridge of rock that lies on the line of your canal is that beyond Lock No. 3?—A. Yes, sir. Q. What do you call that?—A. We call it the eastern divide.

Q. Then, when you have passed the eastern divide going in the direction of Ochoa, as I understand you, you cross several valleys?—A. Three valleys; yes, sir.

Q. All of which are composed of clay?—A. Yes, sir; red clay pre-

vailing: we cut across from valley to valley.

Q. Yes; the canal construction, then, in that case, consists only in removing these ridges?—A. Yes; the closing the streams and the small cuts from valley to valley, forming a chain, you might say, of small lakes, until you come to the San Juan.

Q. But at Ochoa you fix the dam which raises the water to the level of the lake?—A. Practically so; but I have estimated three-quarters of an inch fall from the lake to the dam, so that practically is the same

level as the lake.

Q. And it is necessary to have some current in it?—A. There must be some inclination of the river to discharge the surplus water from

the lake and river.

Q. Some question has been made as to whether the silt that comes up from Costa Rica in the San Carlos River is going to be any obstruction to the dam at Ochoa?—A. Well, the Valley of the San Carlos is to be converted into a large lake. By raising the level in the San Juan the Valley of the San Carlos is also flooded a long distance, and the scouring and sediment-carrying capacity of that river is thus greatly reduced.

Q. How far, do you suppose?—A. About 30 miles.

Q. And that forms a lake?—A. It forms a very large lake; consequently, the sediment which now comes down the river into the San Juan will be deposited in this valley at or near the mouth of its tributaries.

Q. Distribute itself over the bottom of that lake?—A. Well, the most of it will form bars at the point where the different streams from the mountain enter this lake, and these bars may grow gradually, and from time to time extend into this deep lake, but it will be many years before the accumulated silt can affect navigation in the San Juan.

Q. Now, I return to the divide. The material that you take out of the divide on the eastern side, I understand from your report, you in-

tend to carry out to the pier !- A. Yes, sir.

Q. And also build the locks. The material that you take out from the west side, if I understand right, you will carry to Ochoa and deposit in the San Juan River. From the same divide you will carry by rail to Ochoa, and deposit in the dam and construct your dam of that material !- A. Yes, sir; the dam at Ochoa, as well as the locks and piers, will be built with rock from the eastern divide.

Q. And you propose to extend that railway across the divide to

Ochoa!-A. Yes, sir.

Q. Is that line surveyed and located !-A. Yes, sir.

Q. In convenient access to the canal all along !—A. Yes; it follows the line of the canal where excavations are required. It will tollow the line of the ridge where embankments will be needed, so as to carry material to the embankments, and remove it from the excavations, as required.

Q. So that the dam at Ochoa will be built of this stone material that you take out of the Eastern Divide?—A. Yes, sir.

Q. Hauled by rail to the dam?—A. Yes, sir.

Q. Have you satisfied yourself and have the engineers satisfied themselves that the dam at Ochoa on the plan you propose to build it is a safe construction for this canal?—A. I have not yet found that engineer who, after careful consideration of the subject, has not approved the plan entirely as the best that can be adopted under the circumstances. I have not found one in this country or in Europe. The English engineers said, of course, first, "Oh, well, we have not anything of the kind in this country." I said, "Very well; never mind what you have in this country." But upon full consideration they have approved the scheme without any modification whatever.

Q. Can you state that the engineers, all who have examined it, are satisfied that the dam at Ochoa is a safe experiment?—A. Yes; that is the way we have been looking at it, and we regard it as more safe

an experiment than any other system.

Q. How much slack water do you get by your dam?—A. Sixty-four miles.

Q. On the river?—A. On the San Juan.

Q. How much on the lakes that you form west of the Divide?—A. Well, those lakes have a different length. There is 12 miles saved in excavation by the formation of these lakes between Ochoa and the Eastern Divide.

Q. That is to say, you have slack-water navigation at the level of the lake?—A. Yes; extending to 3½ miles east of the rock excavation.

Q. What will be the effect of so much silt that may come out of the San Carlos upon the dam at Ochoa; will it be to tighten and make it firmer?—A. Yes, of course. It is not our intention to have a tight dam in the beginning. I think a leakage through the dam would be a benefit more than a harm; but, nevertheless, the sediment brought down by the waters in times of flood will contribute to some extent to tighten the dam, and I have no doubt in the course of time it will be perfectly tight, no water going through it.

Q. Now you have a great flood of water, if I understand your reports heretofore, coming out of Lake Nicaragua, sufficient to waste more than, perhaps, one-half or two-thirds of it?—A. Yes; we have about twenty times the maximum—even in the dry season—the amount of water that

may be required to work the canal.

Q. So that in the dry season you will waste nineteen——A. We can afford to lose nineteen parts of the surplus and yet have enough for the canal.

Q. Is there any time when the waters of the river become very much

flooded?—A. Yes; in the rainy season sometimes.

Q. How high does the flood rise on the San Juan?—A. The maximum flooding that I have observed there the waters rose—I am speaking from memory, but I should say between 11 and 12 feet. The flood of the

river increased to about 42,000 cubic feet in a second.

Q. How does that compare with the ordinary flood tide in rivers that are supplied, not from lakes but from mountain sources in that country?—A. The Chagres River, which is a very small stream compared with the San Juan in Nicaragua, I have seen at a time when there was not 500 cubic feet of water running through it, and in the rainy season I have gauged it and found 145,000 cubic feet per second.

Q. Is that by a sudden flood?—A. It varies from ten to fifteen hours.

generally inside of twenty-four hours.

Q. Inside the sweep?-A. Yes. The valley of the river is small and

the watershed is very precipitous and rocky.

Q. I suppose that the reason the San Juan River does not rise so rapidly or so high is that the lakes cover a very large proportion of the watershed !- A. Yes; the lake is the equalizer. Lake Nicaragua covers one-half the watershed.

Q. How many years have you been in that country; when did you first go into that country?—A. I commenced to go to Nicaragua in

March, 1872, a little over twenty years now. Q. Have you been there much of the time since that?—A. I have

been there a great many times, most every year, practically.

Q. You commenced your investigations there on your own personal account?—A. No, sir; I was sent by the Government. I was the chief engineer of the Government surveying expedition sent in 1872. Then I occupied the same position in 1873. Then I was retained to complete the plans and estimates of the first two years' work, and then went over the line again in 1874. Then I went to Panama and surveyed the Panama route, in the same capacity of chief engineer in 1875-76. At the end of 1876 I went to Nicaragua again in order to make a more detailed survey of the harbor of San Juan.

By Senator DOLPH:

Q. Sent by the Government then?—A. No, sir. I was sent by re-The Government of Nicaragua was then very anxious to improve the harbor of Greytown and the navigation in the river San Juan. and requested the United States to send me there; the Government of Nicaragua paid my expenses.

By Senator Morgan:

Q. That was in 1876, you say?—A. That was in 1876.

Q. How long did you remain there then !—A. I remained there eight

months and then I went in 1877 to complete that work.

Q. Under the same request ?—A. Still at the same request. It took me some time to make a detailed survey of the valley of the San Juan and the harbor of Greytown and to prepare the plans the Government of Nicaragua wanted to have for the proposed works of improvement.

Q. And after that !-- A. In 1880 I was sent at my suggestion to make some additional surveys on the west side of the lake with a view of

improving the location we had made before on that side.

Q. When you say "we" you mean the United States, do you !-A. Yes; that is to say, our party or the expedition, of which I formed

Q. Well, it had no connection with this company ?—A. No, sir: the company had not yet been organized at all. I made all these surveys for the United States Government, except in 1876, as I say, I made it

for the Nicaraguan Government.

Q. Then, when did you next go back to that country !-- A. Then I was sent again by the Navy Department in 1885. During the time that I was making these surveys for the Government of Nicaragua in 1876-77 I had in view the possibility of a change in the first location made by the Government expedition along the bank of the river. was not satisfied with that location. I wanted to get, if possible, another line more direct from Ochoa to Greytown. I had made several preliminary examinations there, and I came to the conclusion that it was possible to cut a line through, an economical line, and free from the dangerous proximity to the river and the complicated problem of disposing of the drainage of the country to the north.

Q. Now, if you will allow me just a moment; you surveyed the line, then, that was reported to the Government down the line of the river until you got below the foothills, until you got to Greytown?-A. Yes: according to that survey the line of excavation was about 61 miles.

By Senator Dolph:

Q. What expedition was that?—A. The first location was made by the Government expedition of 1872-773, of which I was chief engineer, but we had no time to make that examination which would enable us

to find out the best location, as it was found afterwards.

Q. Well, what was this section that you speak of that was 61 miles?-A. The total length of the canal in excavation and exclusive of lake and river from one sea to the other was 61 miles, or from the point of the river where we leave now to Greytown was to be 42 miles in excavation.

By Senator Morgan:

Q. That is to say, the survey that went down the bank of the San Juan River—just look and see if it is here. (Exhibiting report.)—A. The line followed the bank of the river very closely until we got to the junction of the San Juanillo with the San Juan. Then we cut across to Greytown. All the way we followed the valley of the San Juan close to the river from Ochoa. I was not satisfied with this line on account of its great length, the great difficulties in cutting acoss the spurs extending to the river, and the great difficulty of disposing of the drainage, as all the watershed to the north of the line had to drain into the river San Juan and across the canal, the level of which was but little above that of the river.

Q. Then you conceived the plan of leaving the river at Ochoa and going out on the seaboard here ?—A. We had to leave the river at the

same place.
Q. Then you conceived that leaving the river at Ochoa, the same place, and going straight across, you could get a line that would shorten this curved line to Greytown ?-A. Yes, sir.

By Senator GRAY:

Q. What is the elevation of Ochoa?—A. About 60 feet above sea level.

Q. Then what intervenes ?—A. Well, there is a very high range of hills which started here which we thought at first we could not get through, and looking from the river we could see that the range had an average of about 2,500 feet, so that when I was making the surveys of the lower valley in 1876 and 1877 I made excursions through here to see if I could get through the mountains with a comparatively small excavation. I found some places comparatively low, but they were very wide, and the excavations in other places were very high, until I found this place the line now occupies, which is the narrowest distance between the two valleys on the two sides and is the lowest point in the ridges and on the line extending between Ochoa and Greytown. By this location many miles of canal in excavation have been saved and a more direct line from Ochoa to Greytown has been secured; but the greatestad vantage gained is in the perfect control of the drainage: first, by eliminating a large area of country lying between the new location and the river San Juan and, secondly, by the facility and absolute safety with which the surplus waters can now be discharged from the elevated surface of the canal and basins into the lower tributaries and through the latter into the San Juan. The area to be drained is comparatively small, and with the artificial basins of the San Francisco

and Deseado acting as equalizers and ample river crest for the rapid discharge of surplus waters, the canal may be regarded as entirely free from sudden changes of level by reason of floods.

Q. Is it proposed to supply all the operations of this canal with water

from the lake !- A. Yes, sir.

Q. Any pumping?

Senator MORGAN. They have got twenty times as much water as they want to use. That is all arranged for by the dam across the river at Ochoa.

Q. How high is that to be !- A. Fifty-six feet.

Q. How long !- A. Twelve hundred feet.

Q. And high banks on both sides !- A. Yes, sir.

Q. Now that dam makes the lake level, except a few inches, clear into the lake and from there down to that divide?—A. And through the divide to 4 miles beyond, when you strike the first lock.

Q. So that, when you come here, with your ship you rise one level at

the lock and you go how many miles?—A. About 1½ miles.

Q. You arrive there and 2 miles beyond you reach another; that takes you to the summit level, which is 150 miles long, and across to the Pacific coast?—A. It is 154 miles long.

Q. Then the lake level navigation you have in consequence of the

building of that dam is 154 miles?—A. Yes, sir.

By Senator GREY:

Q. That dam must commence after a lock !—A. We have three locks on each side.

Q. What would be the fall at that !—A. There is no lock at the dam. We cut a canal, independently of the river, from this basin above the dam.

Q. Will there be a current through the canal?—A. No, sir; not any more than is required for such water as may be drawn to work the locks. The surplus water will be run off from the dam in the valley of San Carlos by waste weirs about 1,500 feet in length.

By Senator HIGGINS:

Q. What is the lift of those locks?—A. One is 31 feet, one 30 feet, and one 45 feet. That is on the east side. On the west side there are two of $42\frac{1}{2}$ feet and one of 25 feet.

By Senator GREY:

Q. Is not 45 feet a very great lift?—A. Yes. It is not essential or necessary, however. We can have two of 22½ feet, or three of 15 feet, if you choose. The ground adapts itself to any lift you choose. But the idea of a 45-feet lock has been sustained by all the engineers that have been called upon to report upon this scheme. I had a conversation with Gen. Casey on yesterday, and he thinks I should not change it.

By Senator Morgan:

Q. Let me ask you if it would not be harder to manage a lock 45 feet than one of 20 feet?—A. O, no, sir. The gates of the Saulte Ste. Marie Canal are worked in a minute and a half, and it would not take much more time to operate this one.

Q. What is the lift?—A. From 18 to 24 feet.

Q. Now, I have been going into these details, and I will get you, if you please, to state to the committee—and that is the particular point I want to get at—what this body of engineers and newspaper men, as you call them, some of whom, I believe you say, are themselves competent engineers——A. Yes, they are very competent engineers.

Q. What examination they made and what their opinions were. First begin with the eastern divide. You have already stated it to that point.—A. Yes; we had plans with us, showing the location of the canal and railroad, and the position of the borings taken to the bottom of the canal. On reaching one of these places where borings had been made specimens of the material were carefully examined, some of them being rock 2 or 3 feet long, taken out with diamond drills. The location of the canal was followed as far as Ochoa, and the topography of the country closely examined and compared with the plans.

Q. You went on foot all the way?—A. Yes; to San Juan, and then at Ochoa they examined the site of the dam; followed the San Juan, taking soundings at certain places; some across the lake. On the other side the party followed in the line of the canal all the way from the lake

to Brito.

Q. You have heretofore made, as I understand it, frequent soundings of the river, so that you understand the profile of the entire river from

Ochoa to the lake!—A. O, yes.

Q. Then you crossed the lake in a steamer, I believe you said?—A. We crossed the lake in a steamer to San Jorge, and took horses and went to the mouth of the canal, and from there we started with our examination.

Q. Now, when you leave the lake, going west with this line of canal, you first pass up the river San Francisco some distance?—A. When we leave the lake?

Q. When you leave the lake going west?—A. We strike the valley of

the Lajas.

Q. You follow that how far?—A. About 7,000 feet.

Q. You take possession of the bed of the stream?—A. Part of it;

occupy part of it and divert the stream into the lake.

Q. Then you encounter a ridge ?—A. No, sir; it can hardly be called a ridge. The ground has a very slight inclination towards the summit, which is called the western divide; the rise is about 10 feet to the mile; no more than that.

Q. Now, when you cross that summit you pass into another valley?—

A. Pass into the valley of the Rio Grande.

Q. Then you keep along the valley of the Rio Grande?—A. Keep

along the valley of the Rio Grande more or less to Brito.

Q. Now, you divert the Rio Grande from its basin, do you?—A. No, sir; I have proposed that, but do not think it will be necessary. The Rio Grande is no river at all, just a little brook. It is dry nine months in the year. Sometimes it is impossible to get water there, so much so that we could not get water enough to work our diamond drills. So I propose to let that stream discharge into the basin of the Tola. Before the idea of the Tola Basin was adopted I had proposed to divert the Rio Grande into the Lajas.

Q. Now what is the Tola Basin?—A. The Tola Basin is a valley containing about 5,000 acres of ground which will be converted into a lake.

Q. Is there any stream emptying into it?—A. The Rio Grande and another little stream that is about 3 or 4 miles long called the Tola,

from which the valley gets its name.

Q. You pass this into a basin, that is, about 5,000 acres of ground you will convert into a basin; what will be the depth of that?—A. Seventy feet is the maximum. It decreases as you come up toward the divide.

Q. Now, you get the water to supply that basin from the lake?—A. Yes, the lake extended across the divide into the Tola Basin.

Q At what place do you put your dam between that and Brito to get your proper elevation to make the lake?—A. At a place called La Flor. It is three and a half miles from the Pacific ocean.

Q. What is the length and height of that dam?—A. The length is

1,800 feet; the maximum height is 70 feet.

Q. Is that made of stone, rubble?—A. It need not be. It can be made a water-tight embankment of clay. It can be made of stone because we have abundance of stone in that vicinity.

By Senator HIGGINS:

Q. Have you the wet season to contend with there !—A. Six months

of the year without a drop of rain.

- Q. What about the season when you do have the rain?—A. Well, the maximum rainfall on that side, as observed, has been 81 inches. I have seen it about 55 inches, but on the average I should say it is about 50 inches.
- Q. How does that compare with the Atlantic coast?—A. It is very much more on the Atlantic coast. We have observed about 300 inches in one year on the Atlantic coast. The rainfall on the Pacific is very small.

By Senator Morgan:

Q. Now, from the dam at La Flor you back the water up that comes down from the lake in this Tola Basin; then you continue the canal from that basin, as I understand you, by locks?—A. There we have two locks.

Q. Forty-two feet each to the valley of Brito ?-A. Yes.

Q. Then you have a third lock?—A. Then 3 miles below we have the third and last lock.

Q. Now, from the last lock at Brito what will be the depth and width

of your canal?—A. The harbor comes to the lock.

Q. The harbor?—A. Yes; the lock will be placed at the inner end of the harbor.

By Senator Dolph:

- Q. That harbor has to be entirely constructed !—A. Yes; practically so. There is a little indentation of the coast that does not amount to much.
- Q. A promontory on the north side?—A. Yes; there is a promontory there.

By Senator Morgan:

Q. What will be the length of what you call the harbor there?—A. Well, 4,500 feet in length to the present line of the beach.

Q. To the present line of the beach !—A. Yes.

Q. From the beach into the dam how far is it; or is the last lock right at the beach?—A. That is what I say.

By Senator DOLPH:

Q. It is an abrupt coast?—A. This valley of Brito comes right to the sea. The valley close to the coast is below high water, so that, at high water, this coast is flooded by the sea. There is a break in the coast range at this point, and it is supposed that at some remote time there was a harbor there.

By Senator Morgan:

Q. Now, a ship coming in from the Pacific, entering the canal at the first lock—I do not know what number it is?—A. Six.

Q. No. 6 would then go on and come to lock No. 5, there to be lifted

up and proceed to lock No. 4!-A. Four and 5 are together.

Q. Then it would sail into the Tola Basin, which covers an area of 5,000 acres, with a depth at places of 70 feet. What would be the average depth?—A. Forty-five feet.

Q. Deep enough for any ship?—A. O, yes.

Q. Is that under cultivation —A. Part of it, and part of it has beautiful timber.

Q. Does the Government of Nicaragua contribute that basin?—A. No, sir; the company will have to buy it.

By Senator GREY:

Q. Will that be expensive?—A. No, sir; I do not think it will cost

more than \$25,000, especially if it is purchased now.

Q. What will those locks cost approximately, that let down from the basin to the Tola Valley?—A. If I remember right, about \$3,000,000 for the two. I know it is less than \$4,000,000, because we have there rock foundations and rock sides; so that very little wall will be needed on the sides of the locks.

Q. How large a ship are they calculated to take !—A. The locks are

all 650 feet long.

Q. How wide ?-A. Eighty feet.

By Senator HIGGINS:

Q. What is the depth of water in the Brito Harbor?—A. Thirty feet will be the least.

Q. Is there any bar to contend with ?—A. No, sir.

Q. Do you have to dredge to get that, or is that the present depth?

A. That is the present depth at the ends of the piers proposed.

By Senator Dolph:

Q. You simply build piers there into the deep water; it is an open roadstead now?—A. Yes; and it is proposed to build two piers, one to fifty feet and the other to forty-five feet of water.

Q. It will require a breakwater to protect the shipping, will it not?—

A. Yes, sir.

By Senator Morgan:

Q. As I understand you, the real anchorage there is in Tola Bay?—A. That very likely will be the case, though we have provided for a harbor for a large number of ships in case of delays for any reason whatever or to meet local business at Brito.

Q. And the building of the breakwaters is to protect those ships while lying at anchor?—A. Yes; and to protect the entrance to the

harbor. In bad weather there is a very heavy swell there.

By Senator DOLPH:

Q. And you propose to extend this harbor by excavation?—A. Yes, sir.

Q. And that will be thirty feet?—A. It will be more than thirty feet, because the valley is now below high-water. It is flooded in high-water, part of it, so that we will have to excavate about forty feet in the valley in order to obtain a depth of thirty feet in low water.

By Senator Morgan:

Q. I understand your entire estimates of this work from Greytown to Brito cover every item of work and all the material and all the cost of labor and everything included in acompleted canal?—A. Yes, sir; there

are a good many small items that have not been mentioned in the estimates, but they are so small that it would be interminable. But they have been included in contingencies. Everything has been estimated to have the canal complete.

Q. So that the grand total will cover every item of expense in the construction of that canal and the harbors on either side?—A. Yes, sir,

Q. Now you had these estimates and measurements and details with you in this examination across the line of the canal?—A. Yes, sir.

Q. And were they examined by these engineers who accompanied you?—A. Yes, sir; the engineer, Mr. Donaldson, is an engineer of a section of the Manchester Canal.

Q. And in addition you had along with you the engineers of the different sections who were stationed at their places on the sections?—A. Yes, sir.

Q. Now, before this examination, the Maritime Canal Company had

submitted these estimates to a board of engineers?—A. Yes, sir.

Q. How was that board selected?—A. Well, I could not tell you. was not here at the time. I merely suggested the appointment of the board and was asked to give some names to the company. I declined Then I was notified a few days later that these gentlemen, whose names you see in the report, had been appointed.

Q. Their report is in this report of the committee to the last session

of Congress?—A. Yes, sir.

Q. But no report has been made by the other engineers except Maj. Dutton?—A. No, sir; except these English engineers, I understand, made a report in England.

Q. You have not seen that ?- A. No. sir.

Q. You do not know what its contents are !-- A. No; but was told it

was very favorable.

Q. Now, after this body of engineers went with you across this line of canal and examined it, as you have stated, were your conclusions, in the report which you had submitted to the company, sustained by them?—A. I think in every case, so far as I know. I have not heard any adverse criticism from any one.

Q. So that this line had been really under, first, your examination with the corps of engineers you had when you made your final survey, and that report was made to the maritime company, was it?—A. Which

one? because I have made so many.

Q. Well, the report upon which was predicated the location.—A. That was made to the United States. Government. It is printed in a separate book called "The Nicaragua Canal Surveys, 1885." It was made to the Navy Department, and it was on the strength of this preliminary location—there was nothing but a preliminary location—that this company was organized.

Q. That was preliminary, but it contained estimates of cost !- A. Yes;

it contained estimates and has been confirmed in every particular.

Q. Now, after you made that report to the United States, you then made a subsequent report to the maritime company?—A. That was when I made a more detailed survey. Then the company was organized, and we started the surveys in 1887 and we surveyed from the latter part of 1887 to 1890, when I made this report you see now, after three years of continuous work. Sometimes we had ten and twelve parties in the field, never less than six.

Q. Then it was that report that these engineers had with them?—A.

The last one made to the construction company.

Q. They had that report when you went in company with them and Mr. Miller went with them to examine it?—A. Yes, sir.

Q. And that was the same report submitted to these other engineers when the company asked you to select the engineers, and you declined to do it?—A. Yes, sir.

Q. You did not select any one of them, I understand?—A. No. sir. Q. And declined to have anything to do with the board of engineers

who were to pass upon your work?—A. Yes, sir.

Q. Who were they?—A. Mr. Wellington, who is editor of the Engineering News; Mr. Myers, vice-president or president of the Richmond Terminal, I think, or some important railroad in Virginia; Mr. Charles T. Harvey, who was the engineer of the Sault Ste. Marie locks; Mr. John Bogart, engineer of the State of New York; and Prof. H. A. Hitchcock, professor of civil engineering at Dartmouth College.

Q. These gentlemen then took your surveys and estimates in detail,

and went over the whole of them ?-A. Yes, sir.

Q. After the examination they added something to your estimates?— A. They added to the estimates; yes, sir.

Q. How much?—A. I think their estimate was \$7,000,000.

Q. On what account?—A. Well, they did not say on what account.

It was a larger margin they said.

Q. How much margin had you put in for incidents?—A. I had put in 25 per cent, and they thought perhaps it was better to increase it to 50 per cent on the cost.

By Senator Higgins:

Q. Had they gone over the ground, also !- A. No, sir; they had not. They had our plans and sent for the principal assistants I had in Nicaragua and examined them-made a very careful examination. It took about sixty days to complete it.

By Senator Morgan:

Q. Well, they had your engineers before them?—A. Yes; the engineer of every section was sent for and they had them before them and took the testimony.

Q. What was your estimate?—A. \$65,000,000.

Q. Does that include the margin?—A. Yes; the estimate was only \$52,000,000.

By Senator HIGGINS:

Q. What was theirs?—A. Ido not remember exactly what it is. added about \$22,000,000. They did not give any particular reason, but thought it better to be prepared for any contingency.

By Senator Morgan:

Q. Up to what figure did they make the canal cost?—A. Eighty-seven million dollars they regarded to be the maximum. I ought to say that I said to one of them a few days afterwards, when I knew the result of the examination, "You are very liberal;" to which he replied, "Some of us thought you had better be on the safe side, but my impression is you can build that canal for \$40,000,000."

Q. Now your original estimate of the actual cost was \$52,000,000?—

A. Yes, sir.

Q. And then you put on 25 per cent for contingencies?—A. Yes, sir.

Q. And then, when they made the examination in the way you have detailed here, they added about \$22,000,000?—A. I think they added 35 per cent to my estimates; one-third.

Q. Now, have this last body of engineers that went across this work, in any estimate they have made, increased the estimate of that board?-

A. I do not know, except this English engineer, who has reported as to the probable cost.

Q. Did he increase the cost?—A. No, sir; he comes below my esti-

mates.

Q. He comes below your estimates !- A. Yes.

Q. The English engineer?—A. Yes.

Q. Has anyone increased the cost above \$87,000,000?—A. I do not

know of any; no, sir.

- Q. Has any one increased the actual cost above \$65,000,000?—A. No, sir; not that I know of. I just saw this report of Maj. Dutton. I had not seen it before. I see in the last page of it he thinks it now can be built inside the estimate.
- Q. In your recent examination of canals in Holland and in England, have you found any reason, in the facts that you have ascertained from such examination, to doubt or change the estimates that you have made as to the cost of this work?—A. No, sir; on the contrary, I do believe now that the canal can be built for less than I have estimated.

By Senator HIGGINS:

Q. I would like to ask if the surveys and reports that have been made have not been made either to the Government of the United States or to the Government of Nicaragua?—A. To the Government of the United States up to the time this company was organized.

Q. Well, since this company was organized, has it spent any money

for surveys and reports?—A. Oh, yes.

Q. Well, how many surveys have they made and how much have they spent?—A. I am sure not less than \$600,000 or \$700,000. This company has made surveys that had not been made so extensively for any similar work.

By Senator Dolph:

Q. I would like to ask you a question. Would the raising of Lake Nicaragua 5 feet, as contemplated, by a dam on the San Juan River, render it necessary to make a dam anywhere else on the lake to provent the escape of water; is there any other outlet?—A. No, sir; no other outlet, and that is the ordinary level of the lake, and Nicaragua has approved the plan of keeping the lake at that elevation, 110 feet. The lake is surrounded on all sides by high land, except at its only outlet, the river San Juan.

By Senator Morgan:

Q. Under the concession under which this company has been operating, is there any grant of land by the Government of Nicaragua?—A. Yes; there is about a million acres.

Q. Is that to be selected anywhere the company choose?—A. Part of it is along the line of the canal and there are 40 lots of 20 square miles

each to be selected by the company.

Q. Anywhere in the public domain of Nicaragua?—A. Anywhere in the public land; yes, sir.

Q. That is a part of the concession?—A. To the company; yes, sir. Q. Now, to get that concession the concessionaires had to deposit \$100,000, hadn't they?—A. Yes, sir.

Q. In the treasury of Nicaragua?—A. Yes, sir.

Q. Is that money still there?—A. Yes. It was understood the Government of Nicaragua could use it, and when the company had spent the \$2,000,000 required to be spent in the first year after the commencement of the work, then this money will be taken, or rather supposed to

have been paid by the company for the police expenses to be incurred by the Government of Nicaragua on account of the construction of the canal.

Q. What have you found to be the temper of the people of Nicaragua

in respect to this canal?—A. Very friendly, as a rule.

Q. You speak their language and know all about them?—A. Yes, sir. Q. And have you been there a great deal?—A. Yes; I know every man in the country.

By Senator GRAY:

Q. Is that friendly feeling universal?—A. Yes, I should say so. There are a few old politicians who I do not believe care for the canal because they are afraid to lose the power they have on the people, but there are very few of them, and they have no influence whatever in the country.

By Senator Morgan:

Q. Can you state from your recent observations whether the commerce of the Suez Canal is increasing?—A. It is increasing; I could not say exactly how much, but I know it is increasing very rapidly.

Q. Do you know anything about how far the project has been advanced of duplicating the line of canal through Egypt?—A. No, sir; I could not state. I brought with me the drawings of the proposed enlargement, but I could not say now how far the improvement has advanced.

Q. Do you know whether they are at work on the improvement?—A. I think so, between the turn-outs. They are gradually enlarging the canal to the last design. The canal was only 72 feet wide when it was

opened to traffic. A portion of it is only 72 feet now.

Q. How does that compare in width with the proposed canal at Nicaragua?—A. Well, excepting the deep rock cuts, we propose to have 120 feet.

Q. Now, in the deep rock cuts, what will it be?—A. One hundred

feet.

Q. And you find one on the eastern side and one on the western?—A. Yes, sir.

Q. What will be the length of these cuts?—A. On the eastern, about

 $2\frac{3}{4}$, and on the western about $4\frac{1}{2}$ miles.

Q. In the other parts of the canal, if I comprehend this matter properly, not included in these two rock cuts, any two ships can pass each other without difficulty?—A. Yes, sir.

Q. That is not possible in the Suez Canal?—N. No, sir; except in the

turnouts. They have to wait now.

Q. Yes, but when a ship has gone into this canal it can keep on its continuous journey, except in the locks and in those rock cuts?—A. Yes, but I might remark now, that if, at any time, the traffic will justify, you might have a double set of locks and you might have another cut, either enlarge the present one or make a new one.

Q. By which you mean to say there is no obstruction to the enlarge-

ment of the canal at any point ?—A. Not in the least.

By Senator Higgins:

Q. Now, what is the time that you calculate or allow for a ship to go from ocean to ocean?—A. It would take about twenty-eight hours.

Q. What length of time would it take for a ship to use the locks?—A. It would take about forty-five minutes. It has been done in the Sault Ste. Marie Canal in nineteen or twenty minutes.

Q. How many ships, then, would the canal accommodate through in one day, counting both ways?—A. I think it is thirty I have estimated for one day; with an average of tonnage the same as the average of ships going through the Suez Canal; this canal is designed to be capable of accommodating a traffic of 20,000,000 tons a year.

By Senator Morgan:

Q. The Suez Canal now accommodates about 9,000,000, I believe!—A. I do not think it has come to that yet. I think it is about 8,000,000.

By Senator HIGGINS:

Q. Do I understand your calculation of \$52,000,000 or less, as you think it would be, would be what the canal would cost if it were completed, say, by the officials of the United States Government, according to the plans and modes of construction under which the river and harbor work is now conducted by this Government, say the Sault Ste. Marie, for instance?—A. Well, the organization in this country will answer very well for river and harbor improvements, but will not answer there. We have to adapt it to the conditions of the country. Now, for example, we are hiring our labor there by the month and take care of our laborers, feed them, and have entire control of them. They have attempted to strike several times, but strikes never last more than a few hours. We stop the rations and take them out of their sheds or their houses, and they have to come to time, come back; but I should say yes.

Q. Do you think that the Maritime Company, or the construction company as its representative or agent, can construct this canal cheaper than the Government could do it by its regular engineers?—A. I think

the company can do it better. I think so.

Q. On what do you base that conclusion?—A. My experience with the United States Government is that we have to contend with a good deal of red tape and preparation, and sometimes important matters that should be decided at once by the engineer in chief may be delayed for weeks, waiting for an answer from the Department, and yet you would not dare to act without authority, whereas in a private company the employé can assume the responsibility. They see things that must be done and they do them, but with the Government you can not, although you think it is the proper thing to do and you expect the reply from the Department will be favorable and you feel sure of it, yet you would have no right to do it. I have been consulting engineer fourteen years in the Navy Department and have had to contend with it here in Washington. In fact I was in telephone communication with the Navy Department, and many times work has been put back and delayed for want of authority to act. I knew there was only one solution, but yet you have no right to assume the Department will take the same view. That is the reason I say that.

Q. Do I understand you to mean to say by the previous answer you have given that the officers of the Maritime or Construction Company could better handle the labor than the officers of the Government could?—A. No, sir; not on account of discipline, because I suppose the officers of the Government would have a better discipline, being military officers. The discipline of the Nicaragua Canal has been established there by myself and I acquired this experience in the Government employment, but it is not that. I was referring more to the want of authority than to the faculty for handling men. Of course I know the officers of the United States can enforce discipline better than civilians

in some cases.

By Senator Morgan:

Q. Well, I suppose there would be some trouble also in military officers sometimes, cases of proper jurisdiction in Nicaragua and over its

citizens?—A. Yes.

Q. Where has the labor been principally obtained?—A. In Jamaica mostly. Here is the capacity of the canal as I have figured it. The number of vessels passing through the canal in one day will be thirty-two or in a year 11,680, which, at the average tonnage of vessels going through the Suez Canal, will give an annual traffic of 20,440,000 tons.

Q. Do you know any reason why, if the company should have a proper supply of money, the rest of the work on the canal could not be completed by the time that you would remove the rock obstructions on this eastern cut?—A. No, sir; none whatever. It can be done.

Q. The dam at Ochoa could not be completed on the plan that you have suggested except with the material taken from the eastern divide?—

A. Yes.

Q. So that the completion of that dam and the removal of that material would be simultaneous?—A. Yes; simultaneous with the construction of the locks and the construction of the breakwater at Grevtown.

Q. If it were not for this material you find in this cut at the eastern divide, where would you have to go to get the stone for the dam at Ochoa?—A. It would be very difficult for me to say, because I have made no examination that would permit me to answer that question correctly; but I believe they would have to get the rock from different points. I do not know of any large supply of rock at any other point except at this divide. I know of some beds of rock here and there that might be utilized, but they are small deposits.

Q. I suppose you would have to get it from the lake shore and boat it down the river?—A. Yes, or perhaps the rapids; we have a few hundred yards at some of the spurs going down the river, but after taking borings there we found these beds of rock were not very extensive.

By Senator DOLPH:

Q. Can you get it in large enough pieces to answer your purposes of a dam?—A. O, yes; it is a very homogeneous rock. It is a volcanic rock and very homogeneous.

Q. Do you think you can get a water-tight dam by the plan you pro-

pose, throwing in the rock loose?—A. O, yes.

Q. How would you fill up the interstices?—A. Throwing in small material on the upper side.

By Senator Morgan:

Q. But at the outset you do not want a tight dam?—A. No, sir.

Q. Then where would you get your stone to complete your pier at Greytown, if it were not for this cut?—A. O, we could not get the stone anywhere for that. We would have been compelled to build it of concrete.

Q. You could not get it at any cost?—A. No, sir.

Q. So that you would have to resort to making concrete if it were not

for this eastern divide boulder or body of stone?—A. Yes.

Q. So that I suppose that you consider the presence of that body of stone there as a blessing?—A. I suppose it is one of the most fortunate circumstances found in connection with this matter.

Q. That and the great length of slackwater navigation?—A. Yes, and finding those small valleys that can be connected with very small excavation, some not more than 300 or 400 feet in length and perhaps 20 or 30 feet in depth.

Q. How would the cost of the construction of the Nicaragua Canal compare with that of the Manchester Canal in England?—A. It is going to cost about the same. When the Manchester Canal is completed

it is going to cost about £13,000,000.

Q. What is the length of the Manchester Canal?—A. Thirty-five miles. It is all excavation, while we have only 27 miles canal excavation. They have a very difficult work to do, and also several railroad crossings, which annoy them very much. The restrictions placed upon the company by the act of Parliament resulted in great cost beyond the original estimates.

Q. What points does it connect?-A. Liverpool and Manchester.

The object is to make Manchester a seaport.

Q. Is there any other statement you wish to make to the committee about the Nicaragua Canal?—A. No, sir. It seems to me you are thoroughly familiar with the subject.

The committee adjourned.

United States Senate, Committee on Foreign Relations, July 20, 1892.

The committee met at 11 o'clock a. m. Present, Senators Sherman (chairman), Frye, Hiscock, Morgan, Butler, Kenna, and Gray.

STATEMENT OF HON. WARNER MILLER.

By Senator MORGAN:

Q. Mr. Miller, I would like to ask you whether any stock has been issued since you were before the committee?—A. Do you refer to the

Construction Company or to the Maritime Company?

Q. I refer to the Maritime Company. We have not anything to do with the Construction Company except through the Maritime Company.—A. There has been no further issue of stock by the Maritime Company since that time; at all events, only a few shares, perhaps, to qualify somebody to become a director. Of course whatever sale of Maritime Company stock is made, is made through the Construction Company of stock turned over to it in payment for work done.

Q. Has the Maritime Company turned over to the Construction Company any stock since the last time you were before the committee!—A. No; I should say not; my recollection is not. I would not be entirely positive about that. The Construction Company is entitled to receive both stock and bonds from the parent company now for work done, but it has not received them. The bonds have not been issued

nor the stock.

Q. About what amount are you entitled to receive?—A. We are entitled to receive I suppose about six or seven millions of bonds, and perhaps two or three millions of stock. I could not give you the exact figures without having a computation made.

Q. Is that in addition to what you have received heretofore?—A. No; that is what we are entitled to receive from the beginning, for the

whole work performed.

Q. You have not received any stock or bonds for the work done?—A. Not for the work done. The Construction Company has received \$12,000,000 for the concessions, but no payment has been made for

work. The Construction Company has not received either the bonds or the stock, simply because it had not made any market for them and did not care to receive them until it was in condition to dispose of them and get money.

Q. Then, if I understand you, the situation is this, that the Construction Company, in consideration of the concessions and property turned over to the Maritime Company, has received \$12,000,000 stock?—A. Yes.

By Senator HISCOCK:

Q. That is, without bonds?—A. That is without bonds, of course.

By Senator GRAY:

Q. Were these concessions made to the Construction Company?—A. They were not made direct to the Construction Company. They were made to a voluntary association of gentlemen who had no corporate authority: what might be called a syndicate. They called themselves the Nicaragua Canal Association. They subscribed money to secure the concessions and sent men down there, and the concessions were granted in the name of Mr. Menocal, chief engineer, but the concessions provided that they might be turned over to a company that might be organized. These gentlemen organized the Construction Company, and these concessions became its property. The Construction Company was organized under the laws of Colorado, and the concessions these gentlemen had obtained, using Mr. Menocal's name, became the property of the Construction Company. Then Congress chartered a company called the Maritime Canal Company of Nicaragua. The Construction Company turned over everything it had to the Maritime Company and received back in payment \$12,000,000 stock. Then the Construction Company entered into a contract with the Maritime Canal Company to build this canal and receive a certain amount of its stock and bonds. The amount of bonds was fixed at \$150,000,000. These bonds and stock were to be issued to the Construction Company as the work advanced. As the work advanced so much bonds were to be issued and so much stock, the Construction Company taking the bonds and making its own market for them.

Q. Has this stock been placed upon any market?—A. No, not at all;

it has never been listed on any exchange.

Q. Have the Construction Company ever sold any stock?—A. They have parted with some of it; not in any large amount. I could not give you the exact amount, but, to make that plain, I will say that the Construction Company was organized under the laws of Colorado, with a capital of \$12,000,000. That stock has been sold and the proceeds of it, \$5,000,000, put into the work. Out of the sale of that stock we got money to carry on the work. It is to be reimbursed by its receipts from the Maritime Company eventually. We have expended in round numbers \$5,000,000. That has been received from the sale of that \$12,000,000 stock. That stock has all been sold with the exception of about halfa million dollars. It has netted the company about 50 cents on the dollar. When I became president of the Construction Company the stock of the company had all been issued except \$1,500,000, which was in the treasury, and that stock I have been selling, putting the money into the work from that time to this. In the sale of this last \$1,500,000 of stock I have given, as you may say, as a bonus with the Construction stock an equal amount of the Maritime stock, or, as you may say, I have sold the two. I have sold the stock at par, and the purchaser has received an equal amount of Maritime stock. A man

taking \$10,000 Construction Company stock has received \$10,000 stock of the Maritime Company as well as of the Construction Company.

By Senator Morgan:

Q. That stock of the Maritime Company is out of the \$12,000,000 which you were paid for the concessions?—A. Out of the \$12,000,000 which we were paid for the concessions, and not out of the stock which we have earned. When our stock all goes out there will be \$1,500,000 Maritime stock that has gone out with it. I have sold about \$1,000,000 and there remains \$500,000 to be sold.

By Senator GRAY:

Q. Is that stock pretty well distributed !—A. Yes; it is largely distributed. There are a great many small stockholders—five, ten, fifteen, one hundred shares. Of course there are a few large stockholders, but only a very few.

By Senator MORGAN:

Q. The last time you were here I got a list of the stockholders, which was put in the report. They amounted, I think, to about 500 persons, extended from New York to Richmond.—A. Yes. Since that we have sold stock considerably in California and Chicago, some in Philadelphia, St. Louis, and in other cities.

By Senator BUTLER:

Q. How much did you say had already been expended on the work ?—A. About \$6,000,000.

By Senator Morgan:

Q. Now, I will go back to a point that I think Mr. Gray wants to understand; that is, about this Canal Association whose concessions stood in the name of Mr. Menocal; he was the representative of that association?—A. Yes.

Q. These gentlemen formed a voluntary association for the purpose of getting this concession from the Government of Nicaragua. Now, they had to pay \$100,000 in gold to get it?—A. Yes; they paid \$100,000 in the beginning.

Q. That was paid into the treasury of Nicaragua?—A. Yes, nominally. In order to avoid its going directly to the treasury Nicaragua proposed to expend that money in the police force around the canal.

Q. That, then, with the engagement to build the canal according to the terms of the concession, was the consideration upon which Nicaragua made these grants?—A. Yes; those were the considerations.

Q. Then afterwards it was ascertained that there would be some

Q. Then afterwards it was ascertained that there would be some overflow of Costa Rican territory, and the boundaries were originally in dispute between Costa Rica and Nicaragua. President Cleveland, as the umpire, settled the question of boundaries and settled it against Nicaragua and, as I understand, Costa Rica set up her rights and her interest in your canal, which she had always insisted upon, but she set it up then as a practical question and demanded of the concessionaires certain payments to be made to her. As I understand that is \$1,500,000 stock of the Maritime Company. That is all correct, is it?—A. As to the reasons that you give I could not undertake to say. That was before I had anything to do with the canal; but Costa Rica is to receive that amount of stock. The canal touches her territory, which comes down to the San Juan River, and when the canal is built a very large amount of her territory will be flooded, and we had to have an arrangement with her.

Q. Yes; but she always insisted upon her rights, because the San Carlos River flowed into her territory and out to the sea.—A. Yes;

she always insisted upon it.

Q. The membership of the Maritime Company, then, and the Construction Company is composed of largely different persons?—A. Yes-Of course there were but a few stockholders comparatively of the Maritime Company until we began to put out this \$1,000,000 of stock. Of course putting that construction stock out and giving an equal amount of maritime stock with it increased the number of stockholders in that company.

Q. Yes; but the original distribution of the stock was in the hands of a very few persons of the Maritime Association?—A. There was very little stock issued outside of that for concessionary rights; there was simply enough to make a board of directors. Every time an inventory was made we were entitled to receive a certain amount.

Q. When you were last before this committee I think you mentioned the fact that the contract between the Maritime Company and the Construction Company was a provisional one. It was a contract that was to be made in form after you were here, if I remember !—A. No; I think not. It was originally provisional, but if I remember the last time I was here the contract had been absolutely consummated. I found when I became president that the contract had been agreed upon by both boards. Both boards had ordered their officers to sign the contract, but it had not been signed; but soon after that it was executed. Before that there had been a provisional contract by which the Construction Company was to go on with the work on the canal and receive pay for it up to the ume that the final contract might be concluded. That was completed, and that is the condition now.

Q. That contract was that you should construct the canal for \$150,000,000 bonds and all the remaining stock of the Maritime Company was it?—A. Yes; those are substantially the terms of the con-

tract.

Q. The stock of the Maritime Company being \$100,000,000, and \$7,500,000 being taken out to pay Nicaragua and Costa Rica and \$12,000, 000 for the concessions, the residue of this stock and \$150,000,000 of the bonds of the company were to be turned over by the Maritime Company to the Construction Company to pay for the building of that canal from end to end?—A. Yes; in amounts proportionate to its progress.

Q. Yes; that payment was to be made in installments as the work progressed on engineer's estimates; that is what I understand.—A.

Yes.

Q. What was the rate of interest fixed for those bonds to bear?—A. The rate originally agreed to, I think, was 5 per cent, but that has been left somewhat in abeyance, because the bonds have never yet been issued, and the rate would have to be somewhat controlled by the bankers who might take up the loan.

Q. Is it thought that the rate will be higher than originally agreed to, or lower?—A. My judgment is that the rate of interest on the bonds, if it proceeds as a private corporation without Government aid, will have to be 6 per cent to float the bonds. That is the judgment of all

financial men and bankers whom I have consulted regarding it.

Q. Now, in making your estimate for the work done there, about what sum of money did you ascertain would be required?—A. The estimate made by Mr. Menocal, our engineer, of the bare cost of doing the work was \$65,000,000. That was raised to \$87,000,000 by a board

of five consulting engineers. That estimate by the board of consulting engineers was furnished by the Construction Company to the Maritime Company before the contract was entered into.

Q. Was that made the basis of the contract?—A. That was done be-

fore I came into the company, but I suppose that was the fact.

By the CHAIRMAN:

Q. The contract was made upon the basis that it would cost \$87,000,000?—A. Of course; that was the estimate.

By Senator MORGAN:

Q. Then when you came to make your contract to take your payment in bonds and stock of the company you estimated, as I understand you, that they would probably yield you 50 per cent of their face value?—A. The company calculated to receive more than that. Suppose it cost \$87,000,000 cash to complete it, and say it was completed in five or six years, we would have to pay interest on the bonds during the process of construction, whatever the rate of interest might be. The average time for payment of interest, of course, if it took six years to build it, would be three years, so that the actual cost of construction and interest would be over \$100,000,000, and the company believed, out of the stock and bonds, it could realize enough to do that. The bonds selling, say, at 70 cents, would produce a little over \$100,000,000, and it was believed that out of the two, the bonds and the stock as bonus, the money could be obtained to build the canal. At all events, that is what they agreed to do, and, of course, the assets of the Construction Company, whatever they received out of the sale of the stock, was the guaranty that they would do it.

By Senator BUTLER:

Q. If you could get par for your bonds you would be required to pay a commission?—A. If the bonds could be sold at par, \$100,000,000 would be ample, and probably more than enough.

Q. Well, then, you would not issue the \$150,000,000?—A. No, of

course not.

Q. Then if you could get this assistance asked for from the Government do not you think you could place your bonds at par?—A. I will have to make a little correction there. The company never asked any aid of the Government. The original movement was made in this committee, as Senators Sherman and Morgan very well know.

Q. Well, I stand corrected as to that, but if that aid should come, from whatever source originated, do not you think you could sell the bonds at par ?—A. Of course, 3 per cents would sell. If you should offer \$100,000,000 such bonds in New York to-morrow they would be

taken.

By the CHAIRMAN:

Q. Then the Government would only issue the bonds necessary to furnish the money?—A. Of course.

By Senator Morgan:

Q. The bill reported provided for the issue of not more than \$100,000,000 3 per cent bonds, running twenty years, and then the money realized by the sale of these bonds was to be paid out upon estimates of Government engineers as the work progressed, and the whole amount to be paid out of the proceeds of these bonds was not to exceed the general estimate made by the engineers of the Government?—A. It

was limited to \$100,000,000. The company was to issue bonds guarantied by the Government to the amount not exceeding \$100,000,000.

Q. And then the payments every sixty days were to be graduated so as that the ultimate sum that the Government would pay out would not exceed \$100,000,000, and if the engineers' estimates fell below \$100,000,000 it would not exceed the pro rata of that sum?—A. Yes: that is, as I understand it. I think I can give you my recollection of that matter without going into details. The proposition of this committee, and the bill as reported, was that the Government would guaranty the bonds of the Nicaragua Canal Company for an amount sufficient to complete it, not exceeding \$100,000,000; that it was to take into the Treasury of the United States \$70,000,000 of the \$100.000,000 stock as collateral security for that guaranty, and that at any time before the maturity of the bonds the Government held the option to take that stock at par, \$70,000,000, not paying the company anything at all for it. The \$70,000,000 were to be put into a sinking fund to pay those bonds. Then the Government would become the absolute owner of \$70,000,000 stock, and was to have a majority of the directors, and the Secretary of the Treasury was authorized to vote the \$70,000,000 stock.

By Senator GRAY:

Q. Then the form of the bond was to be this: That the bond was the bond of the Maratime Company with the guaranty of the United States upon it?—A. Yes.

By the CHAIRMAN:

If the United States paid those bonds it became the owner of the bonds and owner of the stock; practically controls the whole concern.

By Senator Morgan:

It had a right to convert the money paid out upon the bonds and interest upon the stock at par.

By Senator GRAY:

Suppose the company was the principal debtor, would it not in the ordinary course of things pay the bonds, if able, and relieve the United States from its guaranty?

By the CHAIRMAN:

They can not pay the bonds until the expiration of twenty years, and any time before that the Government might step in and pay and take the \$70,000,000 stock.

By Mr. MILLER:

I made a partial suggestion at that time to some of the Senators, and since I have made it more fully to Senator Morgan, in which I made a criticism upon this bill, and suggested what I thought was a better form if the Government wanted to do it at all, and what I thought was also just both to the company and to the Government. I said to Senator Morgan that I saw no reason why the Government should pay for this stock at all. I believe the canal could be built by the simple guaranty of the Government, and that it would earn sufficient to pay off its own obligations, and that the Government of the United States if it loaned its credit to the concern would be entitled for that guaranty to receive a majority of the stock of that company, just as a man in business may charge for indorsing somebody else's note. Briefly, my plan was this: We say, let the Government guaranty bonds sufficient to build

this canal, the bond to be made to run sixty years, the Government to receive as compensation for that guaranty at the beginning \$70,000,000 stock of the company and become the absolute owner of it the day it was turned over. The result would be that this canal would be built upon a basis of not to exceed 3 per cent interest upon the bonds, and if it took the whole \$100,000,000 of bonds the revenues of the canal would go as follows: First, to pay the interest, \$3,000,000. It is calculated that it would cost something less than \$1,000,000 a year to keep it in repair—maintain it.

The cost of the Suez Canal is a little over \$1,000,000 a year. Our engineers estimate that this can be maintained at less, but call it \$1,000,000. That is \$4,000,000 out of the receipts. Now, provide a sinking fund that shall be sufficient to pay off the whole \$100,000,000 bonds at the end of sixty years. I have had a computation made: By setting aside \$1,000,000 a year with the interest at 3 per cent, the entire \$100,000,000 would be paid off in forty-nine years. In fifty years it amounts to \$114,000,000. Now, the canal is completed. You have \$3,000,000 interest, \$1,000,000 sinking fund, and \$1,000,000 maintenance—\$5,000,000. There can be no reasonable doubt as to the canal earning that amount the moment it is opened upon the basis of freight that is in sight. The freight from the west coast of the United States to the west coast of South America, taken as it stands to-day, that would go through the canal can not under any showing be made less than 2,000,000 tons per annum. Over 1,000,000 tons of wheat went out from the Pacific coast last year, not to say anything of the increase. Now, the tonnage back would be, say, 1,000,000 tons; that would be 3,000,000 tons. The rate charged by the Suez Canal is \$2 a ton. At the same rate that is \$6,000,000. You have, then, your \$3,000,000 interest, \$1,000,000 sinking fund, and \$1,000,000 maintenance, and \$1,000,000 left. Now, at the end of fifty years the bonds will all have been paid and the Government will own seven-tenths of the stock of the canal, and there will be some twelve or fifteen millions of the stock of the Maritime Canal Company still lying unused, Nicaragua having received \$6,000,000, Costa Rica \$1,500,000, and the Construction Company \$12,000,000. The Government will never pay a dollar, but the whole thing will be paid by the commerce of the world, which should pay for it.

Q. Is there any doubt about the Maritime Company accepting this

proposition?—A. There is no doubt about that.

By Senator GRAY:

Q. How would the passage of this bill affect contracts already made by the Construction Company?—A. The bill provides that all contracts that are not in accordance with this amendment of the charter shall be annulled or amended.

By Senator Butler:

Q. To conform to it?—A. To conform to it; and the Construction Company consented to that. Of course the old contract would have to go by the board and the Construction Company would have to do the work.

By Senator GRAY:

Q. Would have to do it inside of \$100,000,000 instead of \$150,000,000?—A. Of course.

By Senator Morgan:

Q. Now, I want to ask you whether or not, since you were here before,

any arrangement has been made for raising money on the credit of the Maritime Company?—A. Of course; we are raising money continuously. We have to do that or else the company would have had to stop

long ago

Q. Is that on the credit of the Maritime Company?—A. Partially on the credit of the Maritime Company. For instance, the Construction Company is now putting out collateral trust bonds to the amount of \$5,000,000, but those bonds are redeemable at any time within five years at the option of the company. If not redeemed within five years they are then to be converted into the long bonds of the Maritime Company.

By Senator BUTLER:

Q. What rate of interest?—A. Six per cent.

Q. Now, if you could make this arrangement and Congress should pass this bill would not there be an immense saving in the matter of interest that the company has to pay?—A. Well, suppose it took \$100,000,000 to build the canal, the interest would be \$3,000,000 according to this bill. If it took \$150,000,000 at 6 per cent the interest would be \$9,000,000 a year after the work was done. Then of course

the bonds would have to be sold for much less than par.

Q. Well, could not the contracts for labor be much more eligibly arranged if the Government should step in?—A. If the Government would take it up we could divide the canal into sections and sublet it to responsible people at low rates if they were absolutely certain of their money. Now we have to go slowly. I would not let a large contract for \$1,000,000 if we have not the money in sight. It would not be the right thing to do, and nobody would take it.

By Senator Morgan:

Q. Now, I understand that no obligations have been taken upon the Maritime Company, or the Construction Company for that matter, since you were last here, except the collateral trust bonds?—A. No; no new obligations.

Q. How much of those have been issued?—A. We are just beginning to issue them. The first shipment was made the other day to San

Francisco. We only put them out the 1st of July.

Q. At what rate did you sell them?—A. The bonds are sold at par, but 20 per cent of the amount of the bonds is given of the stock of the Maritime Canal Company as bonus.

Q. And you get par for the bonds?—A. Yes, less the bankers' com-

mission, which is a small matter.

Q. It is that money upon which you are proceeding with the work?—A. Yes; we have of course some stock of the Construction Company in the treasury yet, which we sell if anybody wants it.

Q. But you can take these bonds up at any time within five

years?-A. Yes.

Q. Has any foreign syndicate any option upon the bonds of the Maritime or Construction Company?—A. There is an option pending with some parties in London for the first \$15,000,000 bonds of the Maritime Company.

Q. Let me ask you whether you discovered that a sentiment prevailed among the proposed investors that the Government of the United States was to have the control of the canal, or was not to have control?—

A. Do you mean investors in this country?

Q. No; the foreign investors.—A. They have an idea over there that

the Government is determined to take it; that it is eventually to take it under any circumstances, and if they were to come in that the bonds would be recalled inside of five years.

By Senator BUTLER:

Q. In other words, the United States would dominate that canal!— A. Yes.

Q. Have you discovered any disposition of foreign governments to interfere with the Nicaragua Canal-I mean with the Nicaraguan Government or Costa Rican Government—to obstruct or delay or interfere in any way with your work?—A. There have been rumors of parties inclined to step in between our company and those governments; but we have investigated, and I think the parties are entirely irresponsible. I do not think they have any backing whatever.

By Senator Morgan:

Q. Now, to change this to another point. Since you were here before you have taken a party across the canal?—A. Yes.

Q. We have had a detailed account of those proceedings since. Mr. Menocal was here, and it is therefore unnecessary to repeat what he said.

By Senator BUTLER:

Q. From your observation and what you learned otherwise, what is your opinion of the earnings of the canal? You made some reference to it; what is your opinion upon it, founded upon business principles, in case you build the canal according to the plans and specifications?— A. I believe the canal will earn \$10,000,000 a year within the first three years after it is opened. I do not think it possible to earn less than that.

By Senator Morgan:

Q. That is, at \$2 a ton?—A. Two dollars a ton,

By Senator BUTLER:

Q. But you are not restricted to \$2 a ton?—A. No; but we probably would not charge any more than the Suez Canal is charging.

By Senator MORGAN:

Q. If the Government should build that canal for \$80,000,000 I do not see why it should not be \$1 a ton !-A. There is no reason. It is not possible to figure less than 4,000,000 tons, and \$1.50 a ton would pay \$6,000,000.

By Senator FRYE:

Q. The freight must necessarily be so low that you can compete with going around the Horn !- A. If the Government were the principal stockholder it goes without saying that the tolls would be at the lowest possible point.

By Senator Kenna:

Q. What are the present rates, do you know, around the Horn?—A. Well, they vary wonderfully. When a great number of ships come in, they sometimes take freight as low as \$7 a ton around the Horn, and it runs from that to \$10 or \$12. It all depends upon the number of ships that happen to be in. The suggestion made by Senator Frye that the rate should be kept so low as to prevent the freight going around the Horn is correct; but as the rate of \$2 is low enough, it is not necessary to theorize about it. You have only got to go to the

Suez Canal. The Suez Canal carries all the wheat from India, in competition with the Cape of Good Hope, and we save more than twice the distance, comparing Calcutta and Liverpool with San Francisco and Liverpool; yet they pay \$2 a ton to go through the Suez Canal.

COMMITTEE ON FOREIGN RELATIONS, UNITED STATES SENATE, Saturday, December 10, 1892.

The committee met at 11 o'clock, a. m., pursuant to call. Present: Senators Sherman (chairman), Frye, Dolph, Morgan, and Butler. Hon. Warner Miller was also present.

Senator Morgan. Mr. Miller, you have the statement made by you before the committee on July 20, 1892. Is there any further statement you

think proper to make to qualify that in any respect?

Mr. Miller. Well, I do not know as there is any necessity of qualifying it at all. Of course time has elapsed since that, and the company has gone on expending money on the enterprise and endeavoring in every way possible to bring it to the attention of the people of this country and the whole world. I have traveled substantially all over the United States, have spoken in all the principal cities to chambers of commerce and other bodies, and in that way have attempted to create public interest in the enterprise.

Q. I think that in your statement you spoke of some debentures that were issued by the Maritime Company?—A. By the Construction Com-

pany.

Q. The Maritime Company is not responsible in anyway for those debentures?—A. The debentures are issued by the Construction Company upon, you might say, the credit of the Maritime Company; that is to say, the debenture bond runs for five years with the right of the company to redeem it at any time within five years. If not redeemed within five years it is then to be replaced by the bond of the Maritime Company, which bonds of the Maritime Company are now due to the Construction Company for work already performed.

Q. If not redeemed within five years they may be substituted by the bonds of the Maritime Company?—A. Replaced by the bonds of the

Maritime Company.

By Senator Butler:

Q. Do I understand you to say that the Construction Company retains the right to redeem these bonds within five years?—A. At any time within five years.

Q. That is, the Construction Company ?—A. The Construction Com-

pany.

By the CHAIRMAN:

Q. Who has the option to take up or redeem these bonds? Is that with the Construction Company or the Maritime Company?—A. The Construction Company. They are to pay them or to replace them with the maritime bonds.

By Senator FRYE:

Q. But the Maritime Company is obliged to issue bonds to redeem the construction bonds provided the Construction Company so determine?—A. Yes. The matter is just this: The Construction Company has expended a certain amount upon the work, for which it is entitled to receive the bonds of the Maritime Company in payment. It did not think it wise to issue the maritime bonds to the public at this time, because the work was not far enough along to enable them to have a proper price. So the Construction Company issued its own bond with a guaranty or contract behind it from the Maritime Company. If this bond is not redeemed within five years then the bond of the Maritime Company, which is due to the Construction Company at the present time for work done, comes in and supplants it—takes its place. The option lies entirely with the Construction Company whether it will, at the end of five years, call in the bonds or replace them with the bonds of the Maritime Company.

By Senator MORGAN:

Q. What amount of debentures have been issued by the Construction Company to date?—A. Well, not a large amount, for we are constantly selling them through our agents. We only began, I think, in July. The first bonds were printed and delivered in August.

Q. 1892?—A. Yes; this last summer.

By Senator BUTLER:

Q. What interest do they bear?—A. Six per cent.

By Senator Morgan:

Q. Have you the means of giving an accurate statement of the amount that has been issued?—A. Of course we know. I do not know now whether it would be desirable for the company to state just what it is or not; that is to say, if this hearing was to be made public. The company has nothing at all to keep back from this committee, but there might be many things which it would not be desirable to make public so long as the question of the Government coming in and passing the bill was undecided. It seems to me it would not be of benefit to the company, or any benefit to anyone perhaps, if the statement should be made, but I have no objection to stating to the committee in confidence just what we are doing, work and everything.

By Senator DOLPH:

Q. It seems to me that there are only two propositions that we may need at all to consider, one being whether it is worth while now to undertake to secure any legislation at the present session of Congress, and the other being whether the affairs of the company are in such condition as they were at the time we reported that bill; whether that bill or something similar could still be complied with by the company; whether you have issued so many securities and disposed of so many and placed the company in such condition that it is not now practical to comply with that bill?—A. Well, I think the bill might be changed, and I might make some suggestions that would be advantageous to the Government as well as to the company.

Q. If there is not any prospect of passing a bill at the present session of Congress it seems to me the more agitation here in regard to legislation is the worse for the company?—A. No; not if the appearance here is that the Government eventually proposes to come in and

take charge of the canal and control it.

COMMITTEE ON FOREIGN RELATIONS, UNITED STATES SENATE, Wednesday, December 21, 1892.

The committee met at 10 o'clock a.m. pursuant to call. Present, Senators Sherman (chairman), Frye, Dolph, Davis, Hiscock, Morgan,

and Gray.

Mr. Hiram Hitchcock, president of the Maritime Canal Company of Nicaragua, and Mr. Alexander T. Mason, attorney of said company, were also present.

STATEMENT OF MR. HIRAM HITCHCOCK.

By the CHAIRMAN:

Q. Mr. Hitchcock, I believe you have a copy of the last draft of this

bill?—A. Yes, sir.

Q. If you or Mr. Mason have anything to say about it, pro or con, the committee will be glad to hear you.—A. I notice there are two omissions, one with reference to stock and the other with reference to bonds.

By Senator DOLPH:

Q. One, you mean, of the limit to be expended for expenditures up to a certain date?—A. Yes.

Q. That would depend a great deal on the expenditures of the last

two years, I suppose. It was \$4,000,000 originally?—A. Yes.

Q. That is not a very material question if it is large enough to pay?—A. Of course, in one sense, it makes no special difference.

By the CHAIRMAN:

Q. Still there ought to be a maximum fixed. Persons who are doubtful about it always want a limit like an appropriation, and therefore a rough statement of the lowest amount you think will cover it ought to be put in.—A. I would suggest 6½ millions as the maximum amount.

By Senator Dolph:

Q. Well, the smaller the better, as the figures scare people, whether they expect the amount to be paid or not.

By the CHAIRMAN:

Q. It is better not to put it too high. Have you expended 2½ millions since this bill was first reported?—A. I understand from Senator Miller, president of the Construction Company, who unfortunately is confined to his room and not able to be here, that the expenditures amount to 4½ millions in cash, and that they are obligated for about 2 millions more; that is to say, 1 million of the bonds of the Maritime Company, or scrip for these bonds, and a million of the Maritime stock which they have to make good. I understand from him that that is about the statement of the expenditures of the Construction Company.

Q. Well, we consider the 12 millions that is provided for here of stock covers all you paid for concessions, and therefore we struck out this amount paid for concessions. You propose 6½ millions as cover-

ing it?—A. Yes, as a maximum.

By Senator DOLPH:

Q. It don't affect the amount to be paid at all !- A. No, sir.

By the CHAIRMAN:

Q. What is the other point?—A. The other, I think, was left blank on the eleventh page, sixteenth line; the twelve millions was not inserted.

By Senator DOLPH:

Q. I will say to Mr. Hitchcock I think that was left blank on my suggestion. In the first place, I had a letter from ex-Senator Miller, in which he said some of the stockholders thought there ought to be some provision restraining the Government from reducing the tolls so as to prevent their receiving a dividend. My own impression is that there ought to be no limit on the Government reducing tolls. And in the second place, if we are going to have such a provision guarantying that tolls shall not be reduced so that you shall receive dividends, it would be utterly idle to put twelve millions in, giving you twelve millions stock and the Government to be obligated to maintain a rate of tolls.

By Senator Morgan:

Q. I understand about this twelve millions stock, that it has already been paid out by the Maritime Company for the concessions?—A. Yes.

Q. And for whatever was done before the date of that trade?—A. Yes.

By Senator DOLPH:

Q. Well, it was agreed to be-

By Senator Morgan:

Q. Mr. Miller said it had been actually issued.

By Mr. Dolph:

- Q. But the Construction Company still controls a large majority. By the Chairman:
- Q. This company referred to is the Maritime Company and not the Construction Company.

By Senator Dolph:

Q. I know; but the Construction Company and Maritime Company

are substantially the same.

Senator Morgan. It was this way: Mr. Menocal and his associates obtained the concession. They sold it to the Colorado company, the Construction Company, for twelve millions of its stock. That was before we had enacted any law about it. Then under the act of Congress chartering this Maritime Company, authorizing them to build the canal under that concession, they bought the franchise, the concession, and everything that had been done and all the property they had from the Construction Company, simply by substituting \$12,000,000 of their stock for twelve millions of the other.

Senator Dolph. The Construction Company was not organized until

after the Canal Company, was it?

Mr. HITCHCOCK. The Construction Company was organized long previous to the Canal Company. The simple transaction was this: The Maritime Canal Company paid the Construction Company, which was then in operation and going on with the work, \$12,000,000 of its stock for the concessions from Nicaragua and Costa Rica. Of the \$100,000,000 Maritime Company stock, \$12,000,000 thus went to the Construc-

tion Company, six millions goes to the Government of Nicaragua, under the terms of the concession, and one and one-half millions to Costa Rica.

By Senator GRAY:

Q. If I understand you, twelve millions was paid by the Maritime Company to the Construction Company for work done?—A. For con-

cessions and work up to that time.

Q. And in addition to that seven and one-half millions to the governments of Nicaragua and Costa Rica?—A. Six millions under the concession must be paid to Nicaragua, and one and one-half millions paid to Costa Rica, which makes nineteen and one-half millions, leaving eighty and one-half millions, which under this bill goes to the United States.

By Senator DOLPH:

Q. Now, what did the Construction Company do with the twelve millions?—A. It has it in its treasury, except what it has parted with.

Q. Did not it part with its stock to the original association for the concessions?—A. The Construction Company parted with its stock to the original association for the concessions.

By the CHAIRMAN:

Q. The stock of the Construction Company !-- A. Yes.

Senator Morgan. As I understand they have expended eleven millions, and have about one million stock in the treasury; that is Mr. Miller's statement.

By Senator GRAY:

Q. Mr. Hitchcock, what was that stock taken by the Construction company for? I suppose it was for the purpose of carrying on the work that they parted with it?—A. They have parted, as I understand, with something over \$1,000,000 of it:

Q. Do you know at what price !—A. I do not.

Q. Has there been any market for it?—A. I do not think there has at all.

Senator Morgan. I will read from Mr. Miller's statement.

Q. Have the Construction Company ever sold any stock?—A. They have parted with some of it; not in any large amount. I could not give you the exact amount, but to make that plain, I will say that the Construction Company was organized under the laws of Colorado with a capital of \$12,000,000. That stock has been sold and the proceeds of it, \$5,000,000, put into the work. Out of the sale of that stock we got money to carry on the work. It is to be reimbursed by its receipts from the Maritime Company eventually. We have expended in round numbers \$5,000,000. That has been received from the sale of that \$12,000,000 stock. The stock has all been sold with the exception of about half a million dollars. It has netted the company about 50 cents on the dollar. When I became president of the Construction Company the stock of the company had all been issued except \$1,500,000, which was in the treasury, and that stock I have been selling, putting the money into the work from that time to this. In the sale of this last \$1,500,000 of stock I have given, as you may say, as a bonus with the Construction stock an equal amount of the Maritime stock, or, as you may say, I have sold the two. I have sold the stock at par, and the purchaser has received an equal amount of Maritime stock. A man taking \$10,000 Construction Company stock has received \$10,000 stock of the Maritime Company as well as of the Construction Company.

By Senator Morgan:

Q. That stock of the Maritime Company is out of the \$12,000,000 which you were paid for the concessions \{ -A. \ Out of the \\$12,000,000 which we were paid for the concessions, and not out of the stock which we have earned. When our stock all goes out there will be \\$1,500,000 Maritime stock that has gone out with it. I have sold about \\$1,000,000 and there remains \\$500,000 to be sold.

By Senator GRAY:

Q. Is that stock pretty well distributed ?-A. Yes; it is largely distributed. There are a great many small stockholders-five, ten, fifteen, one hundred shares. Of course there are a few large stockholders, but only a very few.

By Senator MORGAN:

Q. The last time you were here I got a list of the stockholders, which was put in the report. They amounted, I think, to about 500 persons, extended from New York to Richmond?—A. Yes. Since that we have sold stock considerably in California and Chicago, some in Philadelphia, St. Louis, and in other cities.

By Senator BUTLER:

Q. How much did you say had already been expended on the work?-A. About \$6,000,000.

By Senator Morgan:

Q. Now, I will go back to a point that I think Mr. Gray wants to understand; that is, about this Canal Association whose concessions stood in the name of Mr. Menocal; he was the representative of that association !- A. Yes.

Q. These gentlemen formed a voluntary association for the purpose of getting this concession from the Government of Nicaragua. Now, they had to pay \$100,000 in gold to get it?—A. Yes; they paid \$100,000 in the beginning.

Q. That was paid into the treasury of Nicaragua?—A. Yes, nominally. In order to avoid its going directly to the treasury Nicaragua proposed to expend that money in the police force around the canal.

Q. That, then, with the engagement to build the canal according to the terms of the concession, was the consideration upon which Nicaraugua made these grants?-

A. Yes; those were the considerations.

Q. Then afterwards it was ascertained that there would be some overflow of Costa Rican territory, and the boundaries were originally in dispute between Costa Rica and Nicaragua. President Cleveland, as the umpire, settled the question of boundaries and settled it against Nicaragua, and, as I understand, Costa Rica set up her rights and her interests in your canal, which she had always insisted upon, but she set it up then as a practical question and demanded of the concessionaires certain payments to be made to her, as I understand; that is, \$1,500,000 stock of the Maritime Company. That is all correct, is it?—A. As to the reasons that you give I could not undertake to say. That was before I had anything to do with the canal; but Costa Rica is to receive that amount of stock. The canal touches her territory, which comes down to the San Juan River, and when the canal is built a very large amount of her territory will be flooded, and we had to have an arrangement with her.

By Senator Morgan:

Q. Now, as to that \$12,000,000 stock that was paid by the Maritime Company, that you say had been issued, I understand?—A. It has been issued to the Construction Company by the Maritime Company.

Q. That has passed into the hands largely of other people?—A. That is, in the Construction Company's hands, except about \$1,000,000, which, Mr. Miller states, has been disposed of.

By Senator DAVIS:

Q. How did they raise the \$5,000,000 which they say they have ex. pended in construction ?—A. In the sale of Construction Company stock-

By Senator DOLPH:

Q. Now, if this bill should pass and the Government pay expenditures, they would pay \$1,000,000 on account of Construction Company stock and \$1,000,000 Maritime Canal stock, would they not?—A. If

they should pay how much?

Q. If they should pay all the expenditures made by your company, they would pay the company back the money received for Maritime stock .- A. As I before stated, I understand that they have expended in cash about \$4,500,000 and about \$1,000,000 each of Maritime bonds and stock, making about \$6,500,000.

Q. But one million was obtained by the sale of one million of Con-

struction Company stock, and they threw in \$1,000,000 of Maritime Canal stock as a bonus.

The CHAIRMAN. I would like to have Mr. Hitchcock state just what he desires to say, and then you can cross-examine him.

Senator Dolph. I know, but I want to go further-

MR. HITCHCOCK. You are on the point, now, of the expenditures of the company. Now, in a conference with Senator Miller yesterday, I said I may be asked with reference to the expenditures of the Construction Company. He said he would be very glad to come over and give the committee further details with reference to those expenditures as soon as he was able, but he said that they expended \$4,500,000 in cash, and then that they used one million Maritime bonds and a million Maritime stock besides, which makes an expenditure all told, if they are to be redeemed, of six and a half millions. That is the way he put it to me, and not being officially connected with the Construction Company, and not being thoroughly familiar with its accounts, that is all I know of it. You understand that the million dollars stock is out of the twelve millions we are talking about, which belongs to the Construction Company. Now, as to what we are obligated to give that company, in my annual report to the United States Government, on the 1st of December, I state that up to the 31st of October last we were obligated to give to the Construction Company \$6,855,000 bonds, and had paid that company \$3,199,000 stock for work done up to that date. The Maritime Company is obligated to give that to the Construction Company for work done up to October 31.

Q. When you speak of bonds, do you mean that any bonds have been issued up to the present time?—A. No; but we are obligated to issue

them.

By Senator HISCOCK:

Q. Why, there has been \$1,000,000 issued?—A. No; not bonds, but

certificates for bonds.

Q. You may not have absolutely issued or disposed of the Maritime bonds, but in some way evidence has been given so that the holders are entitled to them?—A. Yes.

By Senator DOLPH:

Q. Now, I will ask my question. The million dollars of the stock of the Maritime Canal Company out of the twelve million which was paid to the Construction Company for its concession, which has been disposed of, was sold, together with a like amount of Construction Company stock, each at 50 cents on the dollar, or both for \$1,000,000?—A. Yes.

Q. Now that million dollars went into the construction of the

canal?—A. Yes.

Q. And is a part of the expenditures of four and a half million cash?—A. That I can not say, whether it is part of the four and a half million or additional to that.

Q. Well, if it is additional, that would be an additional \$1,000,000

expenditure?—A. Yes.

Q. Now, if the Government pays \$1,000,000 on account of construction it pays the Construction Company for that \$1,000,000 Maritime stock ?—A. It pays for all the Construction Company obtained for it.

Q. Well, yes. What they will have to do to redeem it is another question. It pays all the Construction Company obtained for it?—A. Yes.

Q. Then the eleven millions remaining now held and controlled by the Construction Company of the Maritime Canal Company's stock would

be what the Construction Company actually would receive if it is allowed to retain twelve million stock for its concessions and surveys

done prior to that time?—A. That is right.

Q. If, therefore, \$12,000,000 Maritime Company stock, agreed to be paid to the Construction Company, is the consideration to be received by the Construction Company, then the Construction Company ought not, under the theory of this bill, to have the money refunded which it received as the proceeds of the \$1,000,000 of Maritime stock disposed of, ought it? You ought not to receive that \$1,000,000 and at the same time have refunded to you by the United States what was received from the sale of that \$1,000,000 and put into the work. That would be double payment, would it not?—A. The point is, if the Construction Company has expended in cash four or five million dollars, whatever it may be, if it has only that returned, and has to redeem the \$1,000,000 of bonds of the Maritime Company at par, of course it would be that much out of pocket.

Q. No more out of pocket than what it had expended as receipt of its own stock, because, you may say, it received the stock of the Maritime Canal Company and threw it in its own stock as a bonus.—A. Well, the fact remains, as I stated before, if it paid out four and one-half million in cash and is obligated in addition to take up two million bonds and stock of the Maritime Company, which has to be canceled under this arrangement, and if they receive only four and one-half mil-

lions they may lose two millions.

By Senator Morgan:

Q. You are president of the Maritime Company ?- A. Yes.

Q. Have you any stock in the Construction Company ?- A. Yes.

Q. How much?—A. I have quite a large holding of it.

Q. Of Construction stock !- A. Yes.

Q. Have any of the other directors of the Maritime Company stock in the Construction Company?—A. I think they have. I do not think they all have stock in the Construction Company, but they have taken stock to help on the enterprise. The old association was obliged, under these concessions, to form a construction company, to get to work at once, and expend a certain amount of money at a certain date. They formed a construction company, went to work and put in their money, and everybody interested in the enterprise took this Construction Company stock and paid for it, and helped on the enterprise in that way. That is why persons interested in this canal took stock.

Q. As I understand you have a large number of stockholders in the Construction Company who are not interested or stockholders in the

Maritime Company?-A. Yes.

By Senator Hiscock:

Q. But the fact about it was that there was no way to launch the Construction Company unless the Maritime Company did it—I mean in the way of furnishing it with money and things of that kind?—A. The Construction Company was formed in 1887. The Maritime Company was not chartered until 1889. The Construction Company, therefore, had already gone on; persons had already subscribed for stock, regardless of any future charter to be obtained from the United States, and the gentlemen interested went on with this work. When this charter was obtained, of course a new arrangement had to be made.

Q. But, substantially, the members of the Construction Company

are the members of the Maritime Company !- A. Yes.

By Senator Morgan:

Q. Now, you obtained a charter from Vermont before you did from Congress?—A. Yes.

Q. Did you organize under it?—A. Yes.

Q. Are the terms of that charter the same as this?—A. The same as this. It is identically the phraseology of the act of Congress.

By the CHAIRMAN:

Q. What was the object of that?—A. The object was, we wanted a charter. We were obliged to act under our concession, and not knowing whether we were ever going to get one from the United States we took a charter from the State of Vermont.

Q. That was granted before the Government charter ?-A. Yes; it was granted in the year 1888, and the Government charter was ap-

proved February, 1889.

By Senator Morgan:

Q. Now, has the Maritime Company within your knowledge ever made an application to the Government of the United States or to any committee of the Senate to have its bonds indorsed?—A. Never, sir.

Q. The movement that has taken place here has been a movement on the part of this committee, and of the Senate to which your concurrence has been invited?—A. Entirely so.

By the CHAIRMAN:

Q. To whom will you distribute the Maritime stock that you have on hand; the eleven millions; who will be the beneficiaries?—A. You are referring now to the Construction Company, of which I say I am not an officer, but will be very glad to give any information I have. That belongs to the stockholders of the Construction Company.

By Senator Morgan:

Q. Six hundred people?—A. Yes; some five or six hundred stockholders scattered throughout the country.

By Senator Dolph:

Q. Well, you say the stock belongs to the company, the proceeds of which in the dissolution of the company would be distributed to the stockholders?—A. Either the stock or proceeds.

Q. Now to go back to this \$1,000,000 stock?—A. What stock are

you referring to?

Q. The \$1,000,000 stock of the Maritime Company which has been disposed of by the Construction Company. That was the property of the Construction Company; was disposed of for money, and the money put in the construction of this canal?—A. With their own stock.

Q. Now, if your company was reimbursed for expenditures it would not make any difference if it was obtained on stock or on a promissory

note?—A. I do not know that it would.

Q. They would be paid for that stock with interest, under the con-

struction of this bill?—A. Well.

Q. Now, you could not say that they would be reimbursed for the amount expended and at the same time have the face of that stock in addition. There is something there that needs straightening out. The stock has been parted with and they have put the money in the canal and we pay that back with interest.

Senator Morgan. We must not do that, of course. We are not going

to pay them any money twice.

Senator Dolph. That is the proposition. Four and a half millions in each and one million bonds and one million stock. Now, if the consideration received for this million dollars stock is a part of the four and a half millions there is no claim for that stock.

Senator Morgan. When we come to pay them for work done under this bill would we not deduct from the amount of bonds issued to them the amount realized from the sale of stock? Of course we would re-

duce the amount of bonds.

The CHAIRMAN. The way I understand this is, that this Construction Company became the owner of twelve millions Maritime stock for concessions and work done prior to a certain date.

Mr. HITCHCOCK. Allow me to add right there, it also subscribed for

\$1,000,000 and paid par for it.

By the CHAIRMAN:

Q. Well let us stop at this \$12,000,000. That is the sticking point. That, you claim, is the property of the Construction Company?—A. Yes.

Q. They have, in order to induce parties to take debentures or bonds, given an equal amount of this stock as an inducement; they got no money for this except as an inducement to take their bonds. Is that

the way I understand it !-A. Yes.

Q. And the Construction Company has furnished this money and the Maritime Company is now under obligations to pay them this amount, whatever it is .- A. There are two distinct points about that. The Marîtime Company pays the Construction Company \$12,000,000 stock for concessions and work done up to that time. That is one point. Another point is that under the present contract they have gone on and done work and we are obligated to give them for the work they have done since \$6,855,000 bonds, and have paid them \$3,199,000 stock, according to my report of the 1st of December. Those are the naked facts in the case. Now, it seems to me that I covered in what I said, quoting from a conversation with Senator Miller, the point made. The Senator says the Construction Company has put in \$4,500,000 cash, and have got a million Maritime Company bonds and a million Maritime Company stock to take care of. I suggested that if you put in \$6,500,-000 as a maximum it made no difference, because this bill provides that these accounts are to be audited, and you simply want a maximum sum put in, and then your own accountants will decide according to the terms of this bill if you pass it. You have it entirely in your hands to pay exactly what you please.

By Senator Dolph:

Q. The United States is not concerned whether you sold that \$1,000,000

or not .- A. How is that?

Q. It does not make any difference how you obtained the money to carry on the construction of the canal.—A. If I understand this bill, it is to reimburse for actual expenditures.

By Senator GRAY:

Q. Let me ask, disembarrassed from all these conflicting negotiations and relations between the two companies, the object to be aimed at and to get at in some way is this, as I understand. The United States is dealing with the Maritime Company and not the Construction Company?—A. Not the Construction Company.

Q. And it proposes to pay to the Maritime Company the actual money

cost of the canal up to the time of the transaction.

The CHAIRMAN. Since the time of the concession.

By Senator GRAY:

Q. Since the time of the concession, and to ratify the contracts shorn of whatever stock has been transferred by the Maritime Company to pay any other company or any other government for work and conces-

sions?—A. That is right.

Q. And that therefore the situation would be, if that object is obtained, that the company would have had repaid by the United States all its actual expenditures of money and retain this issue of stock whatever was left as their consideration for the transaction?—A. Yes.

By Senator DOLPH:

- Q. Yes, and for the other million they would retain whatever they got for it?—A. Allow me to say in explanation of that point, which changes the view of it somewhat. The Construction Company was not permitted to sell its last \$2,000,000 of stock at less than par. Of course it never having sold for over 50 cents on the dollar it could not get par. Then when the Construction Company wanted to sell its stock at par and could not do it, it offered a like amount of Maritime stock.
- Q. So that they got the same amount for the Construction stock as for the ten millions previously sold?—A. They got par with Maritime stock.
- Q. They could not get par for it, could they? How much could they have sold the Constrution Company stock for? I take it that they would not have been paid under any circumstances over 50 cents.—A. Probably not.

Q. So that they virtually got 50 cents for the Maritime stock?—A.

Yes, in that sense, perhaps.

By the CHAIRMAN:

Q. Now, I understand you get for the actual cost in money what has been done since the granting of these concessions and since they have been paid for; so that you get twelve millions stock and the actual refund of the money cost of the work and no more. Do you receive anything else?—A. I receive no other impression from this bill.

Q. Do you expect to get anything at all from the Government of the United States or this company except the twelve millions stock and the

actual cost to be repaid to you?-A. No, sir.

THE MARITIME CANAL COMPANY OF NICARAGUA, 44 Wall Street, New York, February 1, 1893.

DEAR SIR: I have received your communication of January 18, transmitting the

following resolution:

"Resolved, That the Committee on Foreign Relations be directed to inquire what sums, if any, have been expended by the Maritime Canal Company, the Nicaragua Canal Construction Company, or any company allied to either of said companies, in and about the construction of said canal or otherwise, with the items of said expenditures, since the accounts of expenditures heretofore rendered to said committee."

In reply I submit the following statement of expenditures of the company and its

agents to January 1, 1893:

For concessions, surveys, preliminary work, etc., and interest thereon. \$550, 029. 03 For organization, furniture, administration, and general expenses... 470, 260. 16 For construction and equipment:

Lands in Nicaragua	\$52, 141. 13
Detailed surveys.	156, 105, 85
Nicaragua Mail Steam Navigation and Transporta-	
tion Company, purchase and betterments	465, 552, 47
Dredging plant	826, 481, 95
Working plant, labor, materials, etc	1, 970, 199. 10
TO CAME AND THE POLICE OF THE	1,010, 100. 10

3, 470, 480. 50

For printing and publications	\$87, 032, 19
Interest account	509, 417. 31
For commissions	15, 543. 61
Redeemable obligations for bonds	863, 105.00
Capital stock redeemable	693, 105. 00
Sundry outstanding obligations	26, 257. 53
Statement of December 15, 1890	6, 885, 230. 33 4, 236, 886. 52
Expenditures December 15, 1890, to January 1, 1893	
I am, yours, most obediently, HIRAM I	Нітенеоск.

Hon. John Sherman,
Chairman Committee on Foreign Relations, United States Senate,
Washington, D. C.

FIFTY-THIRD CONGRESS, SECOND SESSION.

[See pp. 105, 107, 135, 139, 141, 402, 415.]

April 14, 1894.

[Senate Report No. 331.]

Mr. Morgan, from the Committee on Foreign Relations, submitted

the following report:

The action of the Committee of the Senate on Foreign Relations apon bills heretofore reported for aiding in the construction of an interoceanic canal through Nicaragua is set forth in reports No. 1944, Fifty-first Congress, second session, and No. 1142, second session of the Fifty-second Congress, made by Mr. Sherman as chairman of the committee.

Those reports are adopted in this report and are made a part thereof. Since December 22, 1892, the date of the last report of the committee, the president of the canal company has made an annual report to the Secretary of the Interior, as required by law, which, with his report made December 3, 1892, is appended to this report. These reports are made under oath by the president, and they set forth the actual condition of the work on the canal and of the canal property up to December, 1893. Before the date of the last of said reports work on the canal was suspended in consequence of the disturbed state of the money market, and has not been resumed.

In consequence of such suspension there has been some loss, but not of a serious character, in the depreciation of the plant connected with the construction of the canal, but all the dredges and machinery requisite for dredging, and the houses, structures, and wharves necessary for the work on the eastern division, have been supplied, and, with slight repairs, are in condition for the immediate resumption of the work on

the canal.

These facilities for the work have been carefully prepared, and at a very low cost. The work on the canal and railroad alongside and the deepening of the channel leading into the harbor at Greytown has been done at a cost that is within the estimates of the engineers.

Some expected difficulties have been solved in respect of clearing the canal line, and as to the nature of the soil in the low grounds between the seashore and the divide formed by a ridge of low hills to the west of the mouth of the canal. These apprehended difficulties have been developed and overcome and leave the entire line of the canal, from ocean to ocean, free from all practical embarrassment arising from any uncertainty as to the nature of the soil through which it is to be constructed.

ENGINEERING AND COST.

The engineering work on the canal, upon which depends its success as a waterway, has been done so thoroughly as to escape even a sug-

gestion that it is faulty, or that it needs correction, after a critical examination by many of the best engineers in the United States and in Europe.

The details of the engineering and the estimates of cost of the canal are given in the previous reports of the committee and need not be here repeated as no occasion has arisen for any alteration in them.

The grand total of the estimates of the actual cost of the canal, completed for full service and extending to deep water in the Caribbean Sea and Pacific Ocean, through completed harbors, is stated in the report of Chief Engineer A. G. Menocal "revised to conform to information obtained up to January 1, 1890," at \$52,067,340.55. To this sum Mr. Menocal added "surveys, hospitals, shops, management, and contingencies, 25 per cent," amounting to \$13,016,835.45, making the grand total of \$65,084,176.

At the request of the chief engineer, the Maritime Canal Company submitted the full data of his estimates to a board of five engineers, who were selected without any suggestion from Mr. Menocal, for crit-

ical examination and revision.

This board was composed of the following named engineers: John Bogart, E. T. D. Myers, A. M. Wellington, H. A. Hitchcock, and Charles T. Harvey, all of them men of distinguished ability and established

reputation.

They united in a report dated May 9, 1892, in which they increased the estimates of Mr. Menocal to the sum of \$73,166,308 for actual cost of the canal and \$14,633,262 "to cover specified and unspecified contingencies, labor agencies, shops, police, sanitary service, and incidentals." The grand total of their estimate was \$87,799,570.

The reasons for the increase of the estimates are stated fully in their

report.

They were cautionary in their character and largely conjectural, as is shown by the following extract from their report:

We have carefully examined the unusually full maps, profiles, borings, samples of materials, etc., which have been prepared and collected under the directions of your chief engineer, and the completeness and excellent form of which reflect credit upon

your engineering staff.

We find certain elements of the designs submitted which may probably be advantageously modified. This would in some cases reduce and in others increase the quantities. It is also altogether likely that some parts of the work may be let at lower and other parts at higher prices than are estimated. We, however, are disposed to base our conclusions on quantities and prices which should prove sufficient to accomplish it upon the assumption of good and honest management, backed by an ample treasury. We have necessarily borne in mind the fact that the cost of the notable precursors of this canal project, both at Suez and Panama, has greatly exceeded the amount of the original estimates, and that this has been true of many other important works. While this night be, perhaps, in a large measure traced to unfortunate management, as well as the lack of such careful preliminary studies as have been laid before us in this case, we have nevertheless endeavored to guard against a similar result by a liberal allowance for every apparent contingency.

Acting on this principle, we have not yet deemed it wise to reduce the quantities or prices of your chief engineer's estimates in any instance, even when it appeared possible that this might prudently be done. His figures are, of course, founded upon a better knowedge of the local conditions than we can now possess. But to the extent to which it has appeared at all doubtful we have liberally increased one or both.

The Maritime Canal Company and the Canal Construction Company, composed of men of great business capacity and experience, proceeded to raise the money to inaugurate this work and to prosecute it until it would command the confidence of capitalists and the stock exchange, upon the basis of this increased estimate, and they have expended, wisely and with careful economy, more than \$4,000,000 upon it. The work, so far, has fallen within the estimates of Mr. Menocal.

The Government of Nicaragua caused a careful examination of the work to be made, in order to ascertain and determine whether it had been prosecuted in compliance with the conditions of the concession. The President of Nicaragua, in a message to the Congress of that Republic, made the following statement as to the operations of the Maritime Canal Company up to December 25, 1890:

The questions with the Interoceanic Canal Company, which were pending at the death of President Carazo, have been satisfactorily settled by an agreement made the 8th of October last year, and from that date the works of construction have been prosecuted, if not with the rapidity which we are bound to desire, with patriotic impatience, yet with the firmness, formality, and good judgment required to raise the credit of the enterprise in the money markets and attract the capital

wanted for its realization.

The company has fully complied with the condition imposed upon it by article 47 of the Cardenas-Menocal contract—that is, to spend \$2,000,000 within the first year after beginning the work of construction; and all the preliminary works already finished and the works which are being carried on give us right to believe that the opening of your Isthmus will become within a relatively short time a beautiful reality. Only yesterday and a vessel of great draft entered the harbor excavated by the canal company, in the same place where for so many years nothing could be seen but lagoons and banks of shifting sand.

The report of the commissioners appointed to inspect the work on the canal was made to that Government on November 6, 1890, and stated that after investigation they found that the Maritime Canal Company had expended between October 5, 1889, and October 7, 1890, the sum of \$3,099,971.02 upon the canal.

This report was received and published in the Official Gazette of November 22, 1890, and thereupon it was officially stated by President Sacaza that all the requirements of article 47 of the concession had been fully complied with by the Maritime Canal Company of Nicaragua.

THE ACTION OF CONGRESS.

While this work was being thus successfully prosecuted by private citizens, with their own money, and after a contract had been made with a construction company for the entire work to be done on the canal, the Senate, on April 11, 1890, adopted the following resolution, in an executive session:

Resolved, That the Committee on Foreign Relations be, and it hereby is, directed to inquire into what steps have been taken under the act of Congress entitled "An act to incorporate the Maritime Canal Company of Nicaragua," approved 20th February, 1889, and what are the present conditions and prospects of the enterprise; and to consider and report what, in its opinion, the interests of the United States may require in respect of that interoceanic communication.

In obedience to that resolution, the committee proceeded to make inquiry and summoned before it all the persons who had accurate knowledge of the subject committed to them. The statements of the persons examined and the papers laid before the committee are printed in the report of the committee made, unanimously, on the 10th Jan-

uary, 1891.

A free and full discussion was had between the committee and the officers of the Maritime Canal Company and the construction company, which resulted in the bill first reported by the committee to the Senate. That bill embodied the terms upon which it was ascertained that all persons concerned in said canal as owners or contractors were willing and consenting to place the concessions of Nicaragua and Costa Rica, and all that had been done under them within reach of the power of Congress in granting aid to the canal, so that the Government of the United

States would be fully secured against loss upon its guarantee of the bonds of the company to the amount of \$100,000,000,

The reduction of the stock of the company to \$100,000,000, the limitation of the issue of bonds to a like sum, the retirement and cancellation of all the existing contracts and obligations of the company, and the appointment of Government directors in the company, were the leading conditions imposed upon the Maritime Canal Company in the bill that was reported to the Senate. It is not necessary here to point out more fully the provisions of that bill.

This action of the Senate and its acceptance by the people created the belief and excited the desire of the country that the canal would be speedily constructed under the immediate auspices of the Govern-

ment of the United States, and with the use of its credit.

This sentiment and conviction has increased from that time to the present, and it has been encouraged by the fact that the great leading political parties of the country have declared in favor of its construction by the United States, as far as that may be done under the concessions of Nicaragua and Costa Rica. In the annual messages of our Presidents this subject has uniformly received a strong indorsement. The policy of the measure then reported, and of the bill herewith reported, is largely based upon the duty of Congress to make the rates of tolls on the canal as cheap as is consistent with duty to the stockholders for the benefit of our coastwise commerce,

Under such circumstances it was natural that the owners of these concessions should confidently expect that they would be virtually required to yield their property and their rights as concessionaires to

the disposal of Congress.

The action of the Senate was taken up, eagerly, by the people in all parts of the country, who, in State and commercial conventions, in boards of trade, and in earnest individual effort, discussed the subject and sent many memorials to Congress asking that the United States Government would proceed with the work, so that this should be "an American canal under American control." When the people had thus taken up the subject and were pressing its consideration it seemed to be impossible, as it would be unpatriotic, that the canal should be placed under the control of a European Government, or should be constructed by and placed in the power of European capitalists.

Under such conditions the property of the company and its credit were virtually placed in the power of Congress, and the company was so far deprived of its freedom of action that no effort was made to

secure foreign aid, either from capitalists or governments.

Then the disturbance in the financial affairs of the world, which began in the Argentine Republic, extended to Australia and then to Europe, and finally to the United States, cut off all hope, apparently, of the construction of the canal for years to come by the unaided efforts of the company, and forced the suspension of work upon it.

When the canal company was thus rendered powerless, as it appeared, to go on with the work, capitalists from Europe made propositions to the company, which are yet pending, to enter into an agreement for the completion of the canal on terms far more liberal to its present owners than any that have been offered by the United States.

If action by Congress is delayed unreasonably the company will be compelled either to abandon the concessions and lose the money they have already invested in the canal or to accept the offers made to them

by the foreign capitalists.

If either of these results should follow the inaction of Congress, the people could not censure the canal company for yielding to a fate that they could have avoided if Congress had not taken up the subject of

constructing the canal through the aid of the United States.

The work done on the canal is permanent, as far as it has progressed, is important as a demonstration of the final success of the location and plan of the canal, and it will not be abandoned by the commercial world. The canal will be built.

THE CONCESSIONS.

The value of the concessions made by Nicaragua and Costa Rica to the "company of construction," which have been made permanent and irrevocable by the decrees of those Governments, could scarcely be overstated; and the Government of the United States, in its legisla tion, granting a charter to the company which is accepted by those governments, and is being acted upon and conformed to by them, is

closely connected with all that is granted in those concessions.

The concessions are very liberal in grants to the canal company of every right and privilege that can be necessary for the construction, control, protection, neutrality, maintenance, and management of the canal. They are framed with extreme care in every particular, so as to define clearly the rights and privileges embraced in the grants and reservations. The concessions cover the period of two centuries. They cover a fee simple grant of more than a million acres of land of very valuable quality, in a country that is elevated considerably above the water level, with an equable and healthy climate, with cheap and convenient transportation, after the canal is completed, covered with valuable forests; especially adapted to the culture of coffee, cocoa, sugar, sisal, and other valuable textiles, and all the tropical fruits.

Mr. Menocal, the chief engineer of the maritime canal of Nicaragua, in a recent letter addressed to the chairman of this committee, thus describes the lands granted to that company in the concessions of

Nicaragua and Costa Rica:

U. S. NAVY-YARD, Norfolk, April 9, 1894.

Hon. John T. Morgan, U. S. Senator:

DEAR SIR: Referring to your inquiries in connection with the lands granted by Nicaragua and Costa Rica in their respective concessions to the Maritime Canal Company of Nicaragua, I beg to say that, as a large proportion of this land is comprised in alternate irregularly shaped lots on both banks of the river San Juan, from the lake to Ochoa, and on the flowage line of the basins in the valleys of the San Francisco and Deseado, their aggregate acreage can only be accurately determined after a careful location of all the lots fronting on the sinuous banks of the river and basins. However, it may be safely estimated that the fee simple grants by Nicaragua aggregate not less than 800,000 acres and those by Costa Rica 200,000 acres.

Both Nicaragua and Costa Rica have placed at the disposal of the company, free of charge and without reservation, all the spaces belonging to the States, whether on the mainland or in the lake and its islands, or at the ports, roadsteads, or rivers, necessary for the construction of the canal and its accessory works, and for the deviations of streams as well as for reservoir, the areas flooded by waters raised by the construction of dams, and the spaces occupied by the ports, railroads, light-houses, buildings, etc. The acreage of the lands included in these easements may be estimated at not less than 150,000 acres, and 50,000 in Nicaragua and Costa Rica, respectively.

All the lands occupied by the canal from the Atlantic to the lake belong to the states of Nicaragua and Costa Rica. West of the lake the canal is located through private lands, and the canal company has already paid to the Government of Nicaragua \$50,000 for 2,000 acres of land required for the construction of the canal on that

side, as provided in Article XX of the concession.

Of the 1,000,000 acres of lands included in the fee-simple grants of Nicaragua and Costa Rica 360,000 acres are located in alternate lots on both sides of the canal and along the banks of the river San Juan from the Atlantic to the lake, and 640,000 acres are comprised in 40 lots of 20 square miles each granted by Nicaragua, and 25 lots of 8 square miles each ceded by Costa Rica. These lots are to be selected by the company in accordance with these governments from the existing public lands.

As to the value of these lands, it is difficult to arrive at a fair estimate at present. Between the lake and the Atlantic the country is covered with a virgin forest, containing an unlimited supply of timber, well adapted for constructions of all kinds, and of great value in connection with the building of the canal and for exportation when adequate means of transportation to the ports have been established. At present the unimproved navigation on the river San Juan is the only route connecting the Atlantic with the interior of the country. There are several large streams, tributaries of the San Juan, which, by the building of the canal, would be made navigable several miles into sections of the country now inaccessible by land or water, but these streams, like the mother river, are now in the same condition the Spanish conquerors found them.

The soil is uniformly fertile and offers many advantages for the cultivation of sugar, rice, beans, corn, fiber plants, cocoanuts, bananas, oranges, pineapples, and other tropical and semitropical plants, and in the highlands specially adapted for the cultivation of coffee. This statement is sustained by the dense growth and high forests covering that section of the country and by the small settlements found on the banks of rivers, where the native huts are surrounded by exuberant orchards and vegetable gardens, from which the settler gathers two or more crops annually

by only dropping the seeds and letting nature take its course.

On the coast the land is low, but well drained by numerous small streams and small lakes, and is specially adapted for the cultivation of bananas and other tropical fruits. A few miles to the interior the foothills are met with, and from there to the lake the country is rolling, with intervening fertile valleys, the hills rising 50 to 300 feet; the whole being well watered and covered with a luxurious growth

and giant trees.

Under the modifying influence of the northeast trades constantly cooling and purifying the air, the temperature varies from about 74° at night to 85° in the shade at noon, rarely reaching 90°; and as to the healthfulness of the country I can add to the official records of the Government surveying expeditions and of the anal company my own personal experience in the last twenty years. During that time I have made eleven trips to Nicaragua, with an average residence in the country of about While there, myself six months on each trip, or five and one-half years altogether. and assistants were constantly engaged in the arduous work of exploring this uninhabited section, cutting our way through the dense undergrowth, wading rivers and swamps, and running instrumental lines in all directions where the topography suggested any favorable features for the location of the canal.

We lived on the plainest food and slept at night under the scanty protection of a piece of canvas, a rubber blanket, or a few palm leaves. These hardships and privations were of several months duration, and on some of my trips without medical advice. Fortunately none was ever needed. No member of the party ever suffered serious inconvenience from illness due to the climate, and our health, far from being impaired, was generally improved, and we all returned to our homes in better condition than when we left it. The country, therefore, offers advantages for agricultural pursuits as well as for residence, and it is reasonable to expect that, with the building of the canal and the introduction of railroads, improved water transportation, and the increase of population, the land grants referred to will become very valuable.

Hoping that this information may be of some value to you in connection with the subject we both have so much at heart, I remain, with best wishes and kindest re-

gards, yours sincerely.

A. G. MENOCAL.

All minerals in these lands are granted to the company, and they are regarded by careful observers as being valuable.

When the canal is completed these lands will be worth not less than \$10,000,000, and if they are sold during the progress of the construction

will yield a large sum to the treasury of the company.

Among the valuable grants made to the canal company are the bed of the river San Juan from the location of the great dam into and through Lake Nicaragua, for all the uses and purposes of constructing the canal and of unrestricted navigation.

COMMERCIAL AND POLITICAL VIEW.

A more general view of the value of the grants in these concessions to the commerce of the United States, to our coast-line traffic, and with reference to their importance in a military sense, necessarily raises the estimate of their value into a sum which, if counted in money, is really incalculable. The former reports of this committee, which are embodied in this report, contain exact data throwing the full light of truth upon this subject, and render a more extended comment unnecessary.

Several valuable papers that treat of these subjects have been recently printed by order of Congress, included in which are the reports of Capt. Scriven and Maj. Dutton of the U. S. Army, and others, besides reports upon Hawaii and our rights in Bering Sea, which bear with great force upon the commercial and military importance of the canal to the United States. Concessions of such value and importance that have already commanded an expenditure of more than \$5,000,000, wisely and economically employed in permanent work on the canal, under the careful direction of private enterprise, must be worth more to the owners than the money they have expended, and will command a greater sum in the market if they are offered for sale to all bidders.

To the United States, in a political and strategic view, and as a sea route to our Pacific coasts, shortened by more than half the length of the present ocean route, this waterway is of greater importance than the Suez Canal is to Europe and Great Britain, or than the freedom of

the Bosphorus would be to Russia.

As a competitor with Great Britain and other transatlantic nations for the commerce of the Pacific Ocean, this canal is indispensable to the United States.

On these points, also, the previous reports of this committee were quite full, and they supply the data for almost exact estimates that any

one can easily make, and need not now be repeated.

A general view of the geography of the coasts of the Atlantic and Pacific oceans and the lands that lie between them leave no room for doubt that the amount of tonnage that must pass through this canal will, almost in the beginning, equal that which now passes through the Suez Canal, and will be, in the near future, very much greater.

The exchange of commodities between the eastern coasts of America and the eastern coasts of Asia, and of Japan and the islands of the Pacific Ocean, which will seek the transit through Nicaragua as the shortest and most open route of navigation, will, of itself, supply more tonnage to pass through this canal than all that now passes through

the Suez Canal.

The trade between these countries will be more direct than it is now, with London as the common point of distribution, and will therefore be cheaper than the present system. The Nicaraguan Canal will thus be given the preference over the Suez Canal by merchants and navigators. When we add to this the traffic that will pass in ships between the Eastern and Western coasts of the American hemisphere, the amount of tonnage that will pass through the Nicaraguan Canal must be largely in excess of that which will find its way through the Suez Canal. A carefully prepared statement is appended to this report, marked Exhibit No. 3, which shows the value of the commerce that is tributary to this canal.

The Cordillera range of mountains, extending the entire length of South America, forbid the hope that the eastern and western coasts of that continent can ever interchange their commerce by means of

railways so as to make it advantageous.

Although the United States and Canada have, in a measure, overcome the like, but less difficult, obstructions of their mountain ranges, by driving railroads across them, the expenses of transportation are so heavy that they practically forbid commerce between the Eastern and Western coasts of North America.

On this account, the commerce between the eastern and western coasts of Mexico by rail is not considerable, and as to Canada, it is trifling; while as to the United States it is greatly below its proper value, and our Pacific coast commerce is seeking ship communication with Europe around Cape Horn and through the Suez Canal at a destructive loss of time and interest, and an increase of freights and of damage by long journeys on the ocean through all seasons and climes.

"The ship's journey around the Horn" is a distress to commerce that the civilization of the age requires to be removed, and the route through

Nicaragua is the only possible remedy for this universal evil.

It is not too much to say that this condition, so easy to be remedied, will be a reproach to the men of this age if some active and decided

movement is not made to relieve against it.

To point out the dangers, hardships, loss of time, and the destruction of life and property incident to this only waterway connecting the Atlantic and Pacific oceans, which must be navigated in the roughest seas and the most inhospitable climate in all the world, is only to repeat the experience of seafaring men for ages past, and to evoke a prayer from them that the United States will do its obvious duty towards them.

THE STRATEGIC VIEW OF THE CANAL.

The importance of the Nicaragua Canal to the United States in a military and strategic view would demand of us an expenditure of ten times the sum that it will cost to build and protect it. Germany and Great Britain have already occupied every island and harbor in the Pacific Ocean south of the Alaskan peninsula that is a fit place for a naval station or for dock yards, except in Hawaiia and the harbor of Pango Pango, in Samoa.

On these we seem to have a feeble hold. On the southern and eastern seas that wash our coasts, these powers and Spain have occupied and have strongly fortified every available harbor from Honduras to Halifax. The greater number of these naval strongholds are established for no purpose of protecting or defending any European power.

Those in the Atlantic waters and Carribean Sea are intended to control the United States in her military operations, while those in the Pacific Ocean are intended to hold military control over the Western shores of both the American continents. The United States is completely circumvallated, on the north by British Possessions and the frozen ocean, and on the east, south and west by these military posts.

The embarrassment of this situation, not to say its danger, ought to excite our earnest attention, at least to the finding of some way to avoid it, if we can not get our consent to overcome it. In our efforts so far to provide some safeguards against a strong and inflexible aggression that moves with a settled purpose to gain every point where advantage is to be found, and to hold it, we have expended, possibly, more money, but with less effect, than European powers have expended to encompass us with fortified naval stations near our coasts as bases of supplies for their fleets.

From these the most powerful ships of war can assail our harbors, and retire to cover in case of necessity, while the United States must double Cape Horn in sending assistance from our eastern to our western coasts.

With the canal at our command we need not have two fleets to protect our coasts, as we are now compelled to do, at a cost already excessive and is greatly to be increased. Without the canal we are, relatively, in a situation of deplorable weakness.

COMPARED WITH THE SUEZ CANAL.

When private enterprise in Southern Europe first addressed itself to the task of opening a sea-level canal through the Isthmus of Suez, there was no lesson of experience to guide the movement or to assure its success. After a time the Khedive of Egypt, without the firman of his suzerain, the Sultan of Turkey, supported the undertaking and put heavy burdens on his people to sustain it.

This wise and heroic decree of the ruler of a government nearly relapsed into barbarism secured the Suez Canal and should have secured the inviolable independence of his country. But the value of the canal to commercial and political aspirations for dominion attracted the cupidity of Great Britain and has drawn that great and costly work and the

independence of Egypt into the grasp of that Empire.

If it shall result, from our indifference or dread of expansion in the direction of national duty and of self-preservation, that Great Britain or any other great European power shall get the control of the concessions that we have, so far, refused, the result is even now plainly manifest, that the Central American States will repeat the experience of

Egypt.

Then we shall have our country broken in its coast line of trade and defenses, by a European power, not in violation of the Monroe doctrine, but this will be done in the name of these Republics on and near the line of the canal. The precedent for this line of action is already established in the moral forces that keep Great Britain in control of the Mosquito Reservation in Nicaragua, and in the actual sovereign assertion of right and power over The Belize and the Bay Islands, against which we have "protested overmuch."

This is said to be impossible without our defeat in war. But why should we answer with a threat of war an aggression that can be avoided, or repelled, by the guarantee of the bonds of a company

seven-tenths of whose stock is owned by the United States?

An examination of the financial value of the canal will show that it is to be the best great property in the world. The Suez Canal is an unquestionable proof of this statement, and we add to the former statements of the committee, on this point, the following facts:

SUEZ CANAL.

The Suez canal is 87 miles long, 66 of which are actual canal, the other 21 miles being lake navigation. The canal and its appurtenances were completed on or about the 1st of January, 1870, and cost about \$91,000,000. Since that time there have been expended for betterments and improvements, including the deepening of the channel, about \$24,000,000 more; bringing the total cost of the canal up to about \$115,000,000. The canal was originally 26 feet deep. Its present depth is 28 feet. The canal to-day is capitalized at about \$90,500,000 in stock and obligations. The difference between the cost and its present capitalization in stock and bonds was made up by receipts from various sources applied to construction and improvement account.

It is commonly reported that the actual cost of construction did not

exceed \$50,000,000.

The following statement shows the number of ships and net tonnage which passed through the Suez Canal, and the gross receipts therefrom, from 1870 to 1892, inclusive:

Year.	Number of ships.	Net tonnage.	Gross receipts.
1870	488 1, 494 2, 028 8, 624 8, 389 4, 206 8, 559	436, 600 2, 009, 984 3, 057, 421 6, 335, 752 6, 853, 637 8, 609, 020 7, 712, 028	Francs. 4, 345, 758 26, 430, 750 36, 492, 620 60, 057, 259 68, 983, 500 83, 421, 504 74, 888, 561

The cost of administration, operation, and maintenance of the canal for the years 1888 to 1892, inclusive, was as follows:

1888	(about)	\$1, 200, 000
1889	(about)	1, 350, 000
	(about)	
	(about)	
1892	(about)	1, 435, 000

A large proportion of these expenses were incurred by the dredging made necessary to relieve the canal from the drifting sands of the desert which accumulate.

The actual net revenues of the company for a series of years past have been upwards of \$12,000,000 annually. The net profits in 1892 were 41,728,543 francs, or about \$8,345,000, and the dividends declared for said year were 19.8 per cent, including the taxes retained for the sinking fund.

The shares of the company, originally issued at 500 francs each, are

quoted on the Paris Bourse at 2,692,50 francs.

The shares of the Suez Canal held by the English Government and purchased for £4,000,000 are worth to-day over £19,000,000 in the

open market.

The business of 1892 and 1893 suffered from the general commercial depression throughout the world, and was lighter than that done in 1891. In the said last-mentioned year the net profits were 49,091,892 francs, or about \$9,800,000, and the dividends declared on the stock that year amounted to 22.4 per cent.

The effect of the Suez Canal upon the commerce of the world is apparent from the fact that whereas in 1870, the first full year of its operation, there passed through the canal 486 yessels, registering 436,600 tons, the number of vessels passing in 1891 was 4,207, register-

ing 8,700,000 tons.

The most significant fact in this enormous increase is that the average size of the vessels using the canal in 1870 was but little over 1,300 tons register, while in 1891 it had increased to over 2,090 tons,

and in 1892 to 2,200 tons.

The outside limit of the cost of the Nicaraguan Canal is \$100,000,000, but the committee assume, in correspondence with the estimates that have been so carefully made and revised, that the cost will not exceed \$70,000,000, and that, if it should, there will be a fund in the treasury of the company from the sales of stock remaining undisposed of equal to \$16,000,000, in all \$86,000,000. This stock will go to par as soon as the construction of the canal is resumed, if not as soon as Congress has provided for the guaranty of the bonds of the company.

THE ADVANTAGES AND RISK.

The advantages to be derived from the ownership by the United States of \$70,000,000 of the stock of this company will be a boon to the people that is not equaled by the benefits of any work of a public character in which the United States has ever engaged. It is a free gift to the country, which the enterprise, courage, and skill of a few earnest men has placed in reach of the Government that it could never have acquired through diplomatic effort. Under the treaty made with Nicaragua by Secretary Frelinghuysen, the profits to be derived by the United States from the canal tolls were not nearly so great as they would be under the bill now reported, while that concession was to be at a cost of \$5,000,000; and in the arrangement proposed by this bill, the United States gets \$70,000,000 in stock that is worth more than the stock in the Suez Canal, without cost and without danger of liability.

It is entirely improbable that the Treasury of the United States will ever be required to advance any money either for the construction of the canal or for the payment of interest on the bonds, even while the canal is in process of construction. The interest on the bonds, even after \$70,000,000 has been expended, is \$2,100,000 per annum. If it requires seven years to complete the canal, the issue of bonds required will be about \$10,000,000 each year: that is, \$300,000 the first year, \$600,000 the second year, \$900,000 the third year, and so on, until the seventh year, when the sum needed to meet the interest would be \$2,100,000. At that time the canal will be opened and in full operation, and its income even for the first year will reach \$5,000,000, at the rate

of tolls now received by the Suez Canal.

At the beginning of each quarter the bonds required to be guaranteed and sold will cover the interest to accrue during that period, and there can be no doubt that the accruing interest will thus be provided for in every case. Under the plan of this bill it is scarcely possible that the Treasury of the United States will ever be called upon to supply a dollar of money to the canal beyond the small sums that are required to meet the expenses of the Government inspections required by the act, and these will be made by naval and military officers, in almost every instance, who are already in the pay of the United States.

When Great Britain, after the Suez Canal was completed, saw her advantage in the investment of £4,000,000 in its stock, there was only a vague impression that it would result in a profit, in money, yet in about fifteen years that has increased nearly 400 per cent, and is pay-

ing an annual dividend of over 22 per cent.

It is impossible to avoid, or to discredit, the weight of this fact of actual experience, in a matter that is so nearly a case in point. The only difference in the two canals, as earners of profit, is that the Nicaraguan Canal has a vastly wider and more lucrative field of commerce from which to draw its revenues than can be relied upon by the Suez Canal.

Can it be expected that Great Britain will cease its efforts to gain control of the Nicaraguan Canal, and to hold the keys to the equatorial belt of commercial dominion that reaches around the world, when her experience in controlling the Suez Canal has brought to her, in less than a quarter of a century, such increase of profit in money, and such extension of commercial and political power?

One of these new gateways of the commerce of the world must belong to Americans and be under American control. Private enterprise and capital can build them, but they must be under national care, and be

kept open by a powerful arm for equal international use.

The Government of the United States and our responsible men of this day will have a severe reckoning with posterity and with their political opponents, if the example of Great Britain goes unheeded and her manifest policy to dominate the commerce of the world is quietly permitted to prevail, to the dishonor of our country and the disappointment of the hopes and desires of the people of the Western Hemisphere.

DIPLOMATIC AND OTHER OBJECTIONS.

In the former reports of the committee the right of Congress to en-

gage in this work has been sufficiently discussed.

There seems to be no objection urged at this time, except that it is not a wise policy of our Government to do anything for our Navy, or for our national defense or protection, or for our commerce except within our own borders. What will we do to protect the fur seals

under the restrictions of such a policy?

Objection has been made that the Maritime Canal Company of Nicaragua is a private corporation, whose bonds the United States is asked to guarantee. In law and in fact this is a wholly untenable statement. Private individuals can not own more than 7 per cent of the stock of this company under the provisions of this bill. The United States, under the bill now reported, will own 70 per cent of the stock, Nicaragua will own 6½ per cent, and Costa Rica will own 1 per cent of the stock.

So far from this being a private corporation, or one for the benefit of private persons, three independent governments will own 77½ per cent, the Maritime Company 16½ per cent, and private persons may

own 7 per cent of the stock.

These facts completely answer these objections; but, if more was needed, the concessions and charter of the company declare this to be a public act throughout, and the representatives of the stock owned by three sovereign republics sit as directors at the council board of

this company.

No corporation connected with a business subject could be more completely a public corporation than this is. Not only is it a corporation to promote public ends, but it is also international in its scope and purposes, and nearly municipal in its authority over a neutral zone in Nicaragua and Costa Rica, fixed by the concessions, and supported by grants of authority that affect all maritime nations.

No diplomatic relation of the United States is in the least degree affected by its participation in the promotion, assistance, and control of the Maritime Canal Company of Nicaragau, under the provisions of

the bill as it is now reported to the Senate.

Our powers in Panama for the protection of the isthmian transit are not greater than those guaranteed to the United States in our treaty with Nicaragua for the protection of a canal through the terri-

tory of that Republic.

Under such authority, the United States has, on several occasions, landed troops at Panama to protect the railway across the isthmus, built by citizens of the United States under a charter granted by New York. This incursion of military forces into Panama has created no friction and has not excited any feeling of uneasiness there or in any other quarter.

The attitude in which the United States is placed, in respect of this canal, and as it is defined in the bill now reported to the Senate, is in accordance with all of our treaty rights and obligations with all countries, and it can not be a just cause of uneasiness to any power in the world.

All commercial nations are deeply interested in this canal, and none of them have intimated a doubt as to the faithful observance on the part of the United States of the limitations contained in the concessions of Nicaragua and Costa Rica for this waterway of nations.

It would be idle for us to hunt for objections where none exist on the part of other nations to our close relations with this canal company. It has been more than five years since Congress, through one of the committees of the Senate, began to deal with this canal in a serious way, and during all of that period the work on the canal has been steadily progressing under the charter which is proposed to be

amended by this act,

Ample time and opportunity has been given to other nations to make objections to any action of the Government of the United States in relation to the canal, if any objection has ever been contemplated by them. All this business has been transacted without the least effort at concealment. The committee have not found any embarrassment to this work in our relations with foreign countries. On the contrary, every treaty we have, that relates to the canal, provides for and supports the attitude in which the bill now reported places the United States in reference to this great international work.

STOCKS AND BONDS OUTSTANDING.

The bill herewith reported to the Senate deals exclusively with the Maritime Canal Company of Nicaragua, an organization that is expressly provided for in the concessions of Nicaragua and Costa Rica, and is therein distinctly forecast as the protegé of the United States.

The bill requires that all outstanding stocks issued and obligations for the issue of stocks or bonds shall be canceled, and all existing debts and demands against the company shall be extinguished, and all contracts for work to be done, or materials to be furnished, shall be taken up before this act shall take effect, so as to have the company free of all debts and demands at the time of its reorganization under this act.

The Secretary of the Treasury is empowered to render a final decision as to all sums to be paid to the Maritime Company for its property and to enable it to pay its outstanding debts and obligations. The stock liabilities and the concessions, with all their incidents and all outstanding obligations for the delivery of bonds of the company, are to be paid for in the stock of the company, not to exceed \$7,000,000, or such smaller amount as the Secretary of the Treasury shall determine to be just and equitable.

On the faith of these obligations and stocks, the construction company, which was employed to complete the canal at a total cost of \$220,000,000, in the stock and bonds of the Maritime Company, advanced and expended in surveys, plant, machinery, materials, labor, and salaries, with interest, a sum of money alleged to be equal to

\$4,500,000.

This bill requires the Secretary of the Treasury to state an account with the Maritime Canal Company, as to all the items of these cash expenditures and to determine, finally, the amount thereof, and to deliver the bonds of the company guaranteed by the United States, to an amount equal to the sum so ascertained and determined, not to exceed \$4,500,000, and to have the same applied to the liquidation and extin-

guishment of all demands upon the company for such cash expenditures. In explanation of the actual situation of the Maritime Company, with reference to these matters, the attorney of that company submitted to the committee the following:

STATEMENT.

"The bill provides that the Maritime Canal Company shall have not exceeding \$4,500,000 in guarantied bonds, and not more than \$7,000,000 in stock, with which to call in and cancel the following securities issued by it from time to time, to wit:

Stock issued to subscribers for cash, \$1,014,500.

Stock paid for concessions, \$12,000,000.

Stock paid for work, \$3,504,900.

Scrip issued for bonds paid for work, \$6,855,000.

In all, \$23,374,400.

"In addition to the redemption of these stocks and outstanding obligations for stock and bonds the Maritime Company is required to procure the construction company to the cancellation of the contract of January 3, 1890, its most valuable asset.

"To carry out the above requirements the consent of the construction company and of its stockholders, as well as that of the other persons holding securities of the Maritime Canal Company, must be obtained

before the provisions of the bill can be carried into effect.

"The bulk of the securities to be redeemed are now held by the construction company, but about \$1,300,000 of the stock of the Maritime Company and \$1,300,000 of obligations for Maritime Company bonds are held by persons not connected with the companies, who are not likely to part with the same for less than par, no matter how much less

they paid for them.

"The stockholders of the construction company will doubtless consent to any fair and equitable provision which will give them a fair return upon their investment. The construction company has raised and expended, under its contract with the Maritime Canal Company, about \$4,451,568, which represents about \$4,404,900 of Maritime Company stock and about \$6,855,000 of Maritime Company bonds to be issued to them. One million dollars of the stock of the Maritime Company was sold to the construction company for eash, at par, and the balance of said securities were issued, or agreed to be issued, under the contract with the construction company for building the canal, of date January 3, 1890.

"In addition to these amounts the construction company acquired \$12,000,000 of maritime company stock in payment for the concessions. This amount included the \$6,000,000 of stock to which the promoters

are entitled under the concession from Nicaragua.

"If this bill becomes a law, and if the Secretary of the Treasury, under its provisions, so decides, the Maritime Company would have \$4,500,000 in bonds with which to pay its cash obligations, resulting from the recision of the contract with the construction company, for completing the canal, and \$7,000,000, in stocks, to redeem \$6,855,000 of its obligations for bonds.

"Of this sum, \$1,300,000, or thereabouts, are in the hands of the

public and can only be redeemed at par.

"The stockholders of the construction company, in consenting to surrender for cancellation the securities held in their treasury, would, therefore, probably receive no more than \$3,200,000 in cash for \$4,451,568 expended on the canal work, and \$5,700,000 in stock for their

concession sold to the Maritime Canal Company. The construction company, in order to raise money to work on the canal, had to sell the securities paid to them by the Maritime Company at much less than par, so that the sum realized from their sale is much less than they will have to pay for their redemption, and they must, therefore, sustain a heavy loss on the whole transaction. It is equally obvious that the Maritime Company must be in a position to do equal justice to all the holders of its securities without distinction, in order to call them in and cancel them, as is required in the bill to be reported to the Senate."

The difficulties to be met in this reorganization of the Maritime Canal Company under this proposed amendment to its original charter have been very great, and involve very considerable sacrifices on the part of the company as it is at present organized, but the committee are assured that all that is required in this bill will be speedily accom-

plished.

A company that is willing to accept this pittance of stock and bonds for the valuable rights and concessions thus placed within the power of Congress, involving a large loss to individuals, is entitled to credit for something more worthy of their enterprising and patriotic spirit than to be regarded as a body of adventurers anxious to get rid of a bankrupt concern.

The concession of 70 per cent of paid up stock to the United States, when the present owners get not exceeding 7 per cent, is not a very

slight matter, at least to them.

Under their concession from Nicaragua they are entitled to \$6,000,000 paid up stock, all of which they surrender in order to get \$7,000,000 of stock with which to free the Company of all stock already issued and all outstanding obligations for bonds and stock, amounting to over \$16,000,000.

CONCLUSIONS.

In view of these facts, and of the certainty that the property of the Maritime Canal Company is of immense value and can be sold to foreign syndicates at a sum far greater than is provided in this bill, the committee feel constrained to declare that, in their opinion, the conduct of all who are financially interested in the canal and concerned in the effort to place this subject under the control of Congress is free from selfish purposes, and is honorable to them, and is entitled to be

regarded as a patriotic sacrifice on their part.

This bill provides for the guaranty of \$70,000,000 of bonds of the Maritime Company, bearing 3 per cent interest, payable quarterly, the principal to fall due in not less than ten, nor more than thirty years. This reduction of the amount of bonds to be guaranteed, below the \$100,000,000 provided in the previous reports of the committee, is in nearer accord with the estimated cost of the canal, and it leaves 70 per cent of the entire capital stock of the company in the ownership of the United States, and 16½ per cent in the treasury of the company; to all of which resort may be had, in case of necessity to raise any additional sum, if any is required, to complete the canal.

The safeguards provided in this bill to prevent any possible injury to the United States that is within reach of the most cautious fore-

cast, are chiefly as follows:

1. The United States, at all times and in all conditions of the company, is to appoint ten of the fifteen members of the board of directors,

and all the expenditures and operations of the company are to be under

the general supervision of the Secretary of the Treasury.

2. The President may, at any time prior to July 1, 1897, suspend the issue of guaranteed bonds until Congress shall otherwise direct. After that time the condition of the work will, it is believed, be so far advanced, and its practicability will be so well established, that this authority will no longer be useful.

3. The power of foreclosing the mortgage of the company, by sale, upon the order of the President and without judicial proceedings, is a reservation of the means of summary disposal of the mortgaged estate,

that may be found useful.

4. The President may, in his discretion, appoint a board of three engineers, to inspect the canal and everything connected with it, before

any bonds are issued under this act.

5. All work on the canal as it progresses is to be examined by inspectors appointed by the President of the United States, who shall certify quarterly to its actual cost, before any guaranteed bonds are delivered to the company in payment for it.

6. No money raised by the sale of bonds or stock of the company shall be applied otherwise than to the cost of the construction and

equipment of the canal.

These general safeguards, provided to insure careful progress, faithful administration, and honest conduct on the part of all persons who may be connected with the work of building the canal, are supplemented by other provisions of like character relating to the details of the plan and purposes of this act.

The present moment seems propitious for opening this waterway that is indispensable to our physical and political geography, and to the proper care of the Government for the protection and prosperity of

our Pacific coasts.

The plan and certain effect of this bill, if it becomes a law, will be to put into active business employment \$100,000,000 of money borrowed from our own people, without risk to the Government. Such a movement at this time would stir all industries into activity and release other hundreds of millions of dollars that are now being hoarded or employed in gambling in stocks. It would furnish good and wholesome employment to 50,000 Americans that are marching on the highways, begging for work and often for food.

It would yield to the United States, at the rate of one dollar per ton for canal charges, not less than \$4,000,000 per annum of dividends on

its \$70,000,000 of stock in the canal.

With this fund, if so applied, we could grant, or pay, to our coastwise navigators the full amount of tolls they would have to pay to the canal. Or, if we chose, we could, with these earnings, build a ship canal for military and commercial purposes to connect the Great Lakes

with the Gulf of Mexico, through the Mississippi River.

If we can afford to pay interest on \$100,000,000, locked up in the Treasury to protect our national credit, we could even better afford, if that was a necessary result, to pay interest on \$70,000,000 to save to our commerce between the Atlantic and Pacific States the average distance of 10,000 miles, in every voyage, and the crossing of the torrid zone twice in the journey, going out, and twice on the return trip, and the passage through the dreadful seas of the Antarctic Ocean.

The committee adheres to the estimate of the annual earnings of the Nicaraguan Canal, made in their former reports, as the minimum sum that will probably be realized from tonnage tolls and passengers, although

the facts now in view indicate a much larger sum than \$9,000,000, at the rate of \$1 per ton, while the Suez rate is more than \$2 per ton. This would pay 3 per cent interest on \$70,000,000, amounting to \$2,-100,000, and cost of maintenance and current expenses \$3,000,000, and would leave for dividends \$3,900,000, of which seven-tenths would belong to the United States.

EXHIBIT 1.

[Senate Ex. Doc. No. 1, Fifty-second Congress, second session.]

LETTER FROM THE SECRETARY OF THE INTERIOR, TRANSMITTING THE ORIGINAL REPORT OF THE MARITIME CANAL COMPANY OF NICARAGUA.

DEPARTMENT OF THE INTERIOR, Washington, December 5, 1892.

SIR: I have the honor to transmit herewith for the information of the Senate the original report of the Maritime Canal Company of Nicaragua, submitted to this Department this day, in accordance with section 6 of the act of Congress approved February 20, 1889, entitled "An act to incorporate the Maritime Canal Company of Nicaragua."

Very respectfully,

JOHN W. NOBLE, Secretary.

The PRESIDENT OF THE SENATE.

THE ANNUAL REPORT OF THE MARITIME CANAL COMPANY OF NICARAGUA.

The SECRETARY OF THE INTERIOR:

SIR: Pursuant to section 6 of the act entitled "An act to incorporate The Maritime Canal Company of Nicaragua," approved February 20, 1889, which provides that said company shall make a report on the first Monday of December in each year to the Secretary of the Interior, and in accordance with the instructions received from you prescribing the form of such report and the particulars to be given thereby, the said Maritime Canal Company of Nicaragua hereby reports as follows:

First. That the regular annual meeting of the company was held at No. 44 Wall street, in the city of New York, on the 3d day of May, 1892, pursuant to the provisions of the by-laws, and that at such meeting Messrs. Charles P. Daly, Daniel Ammen, Horace L. Hotchkiss, Henry E. Howland, and James B. Eustis were duly elected directors of said company to fill the places made vacant by the class whose term of office expired on the said 3d day of May, 1892, and to serve for the period of three years, as provided for in the said act of incorporation.

Second. That the board of directors of said company, as now constituted, is composed of the following stockholders:

posed of the following stockholders:

Class of 1893.—Joseph Bryan, James Roosevelt, Hiram Hitchcock, Thomas B. Atkins, and Horatio Guzmán (Nicaraguan director).

Class of 1894.—Alfred B. Darling, Franklin Fairbanks, C. Ridgley Goodwin and Alexander T. Mason.

Class of 1895 .- Charles P. Daly, Daniel Ammen, Horace L. Hotchkiss, Henry E. Howland, and James B. Eustis.

A majority of the above-named directors are citizens and residents of the United

States. The vacancy existing in the class of 1894 has not yet been filled.

Third. That at the first meeting of the board of directors held after the said annual election, the following officers were duly elected to serve for the ensuing year, to wit: President, Hiram Hitchcock; vice-president, Charles P. Daly; secretary and treasurer, Thomas B. Atkins. All of the officers so elected are citizens and residents of the United States. That at said meeting the following directors were elected members of the executive committee, as provided for in the by-laws of said company, to wit: James Roosevelt, chairman; Hiram Hitchcock, Horace L. Hotchkiss, C. Ridgley Goodwin, and Alexander T. Mason.

Fourth. That the interests of this company are at present represented in the Republic of Nicaragua by Mr. Gonzalez Espinosa, as resident agent at Managua; while Mr. Louis Chable represents the corporation in a similar capacity at San Jose,

in the Republic of Costa Rica.

Fifth. That on the 11th day of December, 1889, in accordance with the provisions of section 1 of the said act of incorporation, a certificate of the appointment of Messrs. Daly, Boyt & Mason, counselors at law, of No 14 Wall street, in the city of New York, as the attorneys of the Maritime Canal Company of Nicaragua, was duly made by the president of the company and filed in the office of the Secretary of State of the United States, and said firm are still the legal representatives of said

corporation

Sixth. That since the organization of the Maritime Canal Company of Nicaragua 10,145 shares of the capital stock of said company have been subscribed for at par, amounting in the aggregate to the sum of \$1,014,500, of which amount \$1,001,450 have been paid into the treasury in cash; that there has been paid into the treasury from other sources \$39,299.70, making the total amount of cash received \$1,040,749.70; that the other assets of the company consist of its capital stock, of the concessions, rights, privileges, and franchises which it now owns, and of the plant, equipments, materials, lands, buildings, structures, railways, steamboats, telephone and telegraph lines, dredges, locomotives, cars, machinery, stores, machine shops, supplies, and other property in Central America, including the lands situated between the lake and the Pacific, which we purchased from the Government of Nicaragua for the route of the canal, at a cost of \$50,000, in accordance with the provisions of the Nicaraguan concession.

Seventh. That since the organization of the company it has paid for property, work and labor done, and materials furnished in the execution of the work of constructing the canal and in administration expenses, the sum of \$815,649.63 in cash and 31,990 shares of the full-paid capital stock of the company of the par value of \$3,199,000, and is obligated for \$6,855,000 of its first-mortgage bonds. It has also issued 180,000 shares of its capital stock of the par value of \$18,000,000 in payment

for concessionary rights, privileges, franchises, and other property.

Eighth. That the liabilities of the company consist of the amounts still due under the concessions granted to the company; of the \$6.855,000 of bonds before mentioned, the said bonds being due to the Nicaragua Canal Construction Company for work and labor done and materials furnished in the execution of the work of constructing the Interoceanic Canal, and of cash liabilities outstanding and unpaid to an amount

not exceeding \$50,000.

Ninth. That while the work of actual construction was not formally inaugurated until the 8th day of October, 1889, preliminary work on the canal was commenced on the 3d day of June of that year, since which time operations have been prosecuted with diligence and energy. The following statement covers the period that has elapsed since the last-mentioned date and shows what has been accomplished by the company in Nicaragua since the inception of the canal work up to the time of

this report.

The axial and detailed surveys of the proposed interoceanic canal, its harbors, locks, and other accessory work, were completed early in the spring of 1889, and the final location of the route from ocean to ocean practically determined. Several months elapsed after the completion of this work before the voluminous plans and drawings prepared by the company were approved by the Government of Nicaragua and the formal commencement of construction authorized, during which time a corps of engineers was kept constantly employed and much valuable preparatory work was done, such as the commencement of the erection of permanent quarters, wharves, storehouses, clearing the ground, and accumulating supplies, tools, machinery, etc.

The necessity of securing a safe entrance from the Atlantic to the old port (which, until 1860, was easily accessible to vessels of upward of 20-foot draft) was realized as indispensible to economical and rapid progress, and therefore the first work of actual construction was in execution of the engineers' plans for restoring the harbor. One of the means to accomplish this end was the erection of a breakwater to protect the entrance. This massive work, which will ultimately absorb much of the rock excavated from the divide cut, has been pushed out about 1,000 feet and has been filled in with brush mattresses, rock, and hydraulic-cement concrete. Quarters for accommodation of the workmen and storage for supplies were erected near this work, and a railroad track has been laid upon the breakwater and extended landward to facilitate the handling of building material and other supplies. In the framework of this breakwater creosoted piling only was used, as the marine worm soon destroys unprotected wood. The filling placed within and beneath the heavy creosoted timber framework forms a solid mass of what would otherwise be insufficiently protected from injury by the elements and by the teredo. The bar in frent of the old San Juan harbor has, since 1860, been one of the most difficult on the coast.

The breakwater was constructed from the beach to and across this bar, and although it encountered the full force of the waves, it was carried forward through the heavy surf without interruption on account of the weather and without accident of any kind. As it advanced it afforded a partial shelter to the beach to learn to the beach to learn to the beach to learn the surface of t

ward and also served as a barrier to the moving sand, which, impelled by the currents and prevailing winds and driven constantly to the westward, built up and maintained the sand spit that thirty years ago closed the old port of San Juan. This artificial interruption to the operation of the winds and current permitted countervailing forces of nature to come into play, so that by the time the pier had been pushed out 600 feet the sand beach under its lee was swept away and a channel formed communicating from the open ocean to the old harbor and restoring it to the extent of permitting the entrance of light-draft seagoing vessels at a point where, six months before, there was a sand bank 3 or 4 feet above the sea level. The attainment of this result was without the assistance of any dredge or any artificial aid other than that afforded by the breakwater.

It is evident from this experience that the plan of the engineers for the restoration of the port of San Juan is not only theoretically sound, but practicable. ing of the pier has steadily progressed as materials were available, and its total length, as already stated, is now over 1,000 feet. The depth of the channel under the lee of the pier reached 10 feet when the structure had been extended 800 feet. In the winter of 1890-'91 a dredge increased this depth to about 15 feet, which has since been maintained, except in restricted areas, which are easily deepened by dredging. The first deep-sea vessel to enter the restored harbor was the steamer Sverdrup, with a cargo of machinery, etc., on the 7th of January, 1891, and since then many other vessels have frequented the port.

The construction of permanent buildings was begun in the summer of 1889 and has been in progress ever since. The completed structures are all of wood (pine from the United States) and are roofed with corrugated galvanized iron. The offices, quarters, and hospitals are neat and comfortable, being ceiled and painted and provided with wide verandas outside. The permanent buildings thus far erected are in the immediate vicinity of San Juan, where the general headquarters are located and where the most important operations have been concentrated. They consist of five groups, covering an area of about 12 acres, and have a floor space as stated

DOLO W :	
Headquarters	Square feet.
Headquarters	13, 986
Hospital	14, 174
La Fé depot	21, 864
Railroad headquarters	
Camp Cheney	
Total	75, 902

Besides the above, numerous and extensive wharves equipped for unloading freight, sheds, small outhouses, water tanks, etc., have been constructed. The machine and smith's shops are equipped with a varied and extensive assortment of modern tools. A transway connects the more important of these establishments.

Work in clearing the canal line of forest growth was begun near Greytown in January, 1890, and for a distance of about 10 miles back from the coast a clearing has been made of 486 feet in width. Similar work was commenced on the west side of Lake Nicaragua in the month of November, 1890, and for 9 miles the ground there

is ready for construction work.

A telegraph line to the interior, connecting with the telegraph systems of the country and the ocean cables, was one of the first works commenced, and it was soon pushed through to Castillo, covering with its loops a distance of 60 miles. For the first 10 miles the line ran across a very difficult swamp, where the work was most arduous; the poles of native timber were difficult of procurement; and, together with all other supplies, had to be carried to where they were needed by men wading in water from 2 to 4 feet in depth. In some places the water was so deep that the poles could not be set in the earth at all, and in such cases they were secured to tree stumps, and otherwise supported by wire guys. Through the hill country the line was not only an expensive one to build, but is difficult to maintain, and to protect the wires and poles from damage by falling timber it was necessary to make a clearing of the forest along the line to a width of about 100 feet. In addition to this telegraph service, all the offices and the more important camps and stations are now also in telephonic communication.

As the heaviest single body of work to be accomplished on the whole line is concentrated within a distance of 3 miles at the rock-cutting, "The Eastern Divide," and as the time required to complete the canal will necessarily be measured by the time spent in opening this deep cut, it was considered important to install a plant for the work at the earliest date possible. The difficulties of transporting to the Divide the quantity of machinery, etc., needed for the heavy rock-cutting to be done at that point made requisite the immediate construction of a railroad. This work was commenced in the summer of 1890 and has been pushed forward with marked success. The line traverses what had always been considered an impassable swamp,

and for the first 10 miles there are but 4 miles of hard ground. Soon after beginning the roadbed heavy rains set in and the swamp was flooded to a depth of from 1 to 4 All the earth used for filling had to be brought from a distance by construction trains, which necessitated laying the track first and making the required em-

bankment afterward.

To accomplish this, a heavy corduroy of logs was laid for many miles. These logs, which were procured from the neighboring forest, were rolled, floated, or dragged by man power alone to the line of the proposed track, and there laid transversely as compactly as possible. Upon them were placed longitudinal stringers, consisting of native tree trunks, on which the railroad ties were laid, and upon these the steel rails were then spiked down. Trains loaded with sand were run out over the structure and the sand dumped and packed into the interstices and under the ties, which were raised gradually by the workmen until the desired grade was secured. There were 6 miles in all of this construction through swamps, the men working most of the time in water reaching above the knees and often to the waist or armpits. The material used for grading and ballasting the first 8 miles of the roadbed was taken from the canal prism, near the harbor, and distributed along the line by construction trains, the cars being loaded by means of a steam shovel or navvy, capable of delivering 1,300 cubic yards per day.

There are several places along the railway where streams and other water courses are crossed. These are spanned by pile bridges, and a powerful steam pile-driver has been used in their construction. The portion of road already completed is the most difficult of the whole line, and but 7 miles now remain to be built to reach the Eastern Divide. There are several miles of side track, switches, etc., already in place, and the road is equipped for construction work with 4 locomotives, 50 cars, steam shovel, ballast-unloader, and all other requisite appliances. All the crossties and bridge timbers are of Northern pine, charged with 16 pounds crossote oil to the cubic foot. At the terminus on the harbor is a fine wharf, 264 feet long, built in the best manner of creosoted timber, and equipped with modern steam conveniences for The survey for the remainder of the line, extending to handling freight rapidly. the San Juan River at Ochoa, has been completed; in fact, two locations have been surveyed and profiles prepared in sufficient detail to permit accurate estimates of cost. Between Lake Nicaragua and the Pacific the railroad line is also located, and everything made ready for its construction, which must necessarily precede the inauguration upon a larger scale of the work of excavation.

In the summer of 1890 there was purchased from the American Contracting and Dredging Company the extensive and valuable plant used so successfully on the eastern end of the Panama Canal from the year 1881 to the callapse of that enterprise in 1888. The property consisted of seven dredges, the most powerful ever built, two fine tugboats, twenty lighters, several launches, the equipment of an entire machine shop, stationary engines, pumps, and a vast quantity of tools, spare parts, materials for repairs, etc. Many of the articles are in quantities which will suffice until the completion of the Nicaragua Canal.

During the autumn of 1890 this dredging plant was transferred to San Juan del Norte, where portions of it were immediately equipped for work, and three of the dredges have since been in use for various periods, upon the canal proper, in the harbor, and in the entrance channel leading thereto. Dredging on the canal line west of the harbor has uninterruptedly been carried forward and a point well inland has been reached, by an open channel 17 feet deep and varying in width from 150 to 230 feet, which drains the swamp and lowers the level of the swamp waters, thereby securing for the railroad embankment immunity from injury by flood waters. No obstructions to free dredging have been encountered so far, although the canal has now been opened for a distance of about 8,750 feet. A powerful seagoing suction dredge for deepening the channel across the bar has been constructed in Scotland for

the company and is now ready to be sent to its destination.

The floating plant has been kept in repair, and the buildings, offices, quarters, and hospitals maintained in good condition, while the equipment of the machine shops is

being increased as there is need.

All the engineers employed on the line have been and are of known and tried ability. Those in positions of chief responsibility have had extensive practice in works of engineering construction in the United States and the tropics. neers, administrative staff, surveyors, and nearly all the skilled mechanics have been hired in the United States and sent out under contract for at least a year's service, and several have been continuously employed in Nicaragua for upwards of three years. Natives of Central America and negroes from the island of Jamaica have been employed for unskilled labor, and all employes have been not only housed and fed by the company, but also supplied with medicine and hospital attendance. The rate of wages paid to ordinary laborers varies from 20 to 30 soles per month, and it is evident from past experience that an abundance of acclimated labor, entirely adapted to the company's needs, is readily obtainable from the localities named.

No Chinese or other Asiatic workmen have been employed, nor w.ll such be used

upon the work in the future.

In the location of the canal line the route chosen from among the many tentative lines run was that which presented the fewest difficulties. No change from the location first decided upon has since been made, except as further examination and studies have demonstrated the certainty of betterments, either by shortening the length or decreasing the difficulties and cost of construction. During the past year one or more parties of engineers have been constantly in the field engaged in critical examination of the topography at certain localities where previous surveys had suggested that betterments in the location or design might be practicable. In some cases, after very close examination and study, their hopes proved unrealizable, but in one instance instrumental examinations have completely demonstrated not only the practicability, but the economy to result from a rectification of the line. location previously adopted between the sites of Locks Nos. 2 and 3 involved a curve of large radius in the sailing line through the second Deseado basin. It is now discovered that this curve may be eliminated, with a saving in distance of upwards of 1,000 feet and a saving in earth excavation of upwards of 600,000 cubic yards.

A site for the Ochoa Dam has been located about a half mile below that originally chosen; should the borings yet to be made at this locality prove its suitability of foundation, without material increase of cost over that already assigned in the estimates, another curve in the sailing line may be eliminated and a large reduction in mass of excavation will be possible. A party of engineers has been for many months engaged in boring the strata at the proposed site of La Flor Dam, which is located about 3 miles from the Pacific terminus. Although their work at last advices had not been completed, yet the results already known demonstrate the certainty of securing a solid rock foundation for the dam and for the locks which are to be built at this point. This existence of a solid foundation of homogeneous limestone at an inconsiderable depth is regarded as very important, for it will permit the construction of a dam of less mass than would have been required on the clay foundation contemplated before the deep borings with the diamond drill had been made.

A party of engineers was also engaged for many weeks in further surveys for the

minor canal required under the concession to be built between Lake Nicaragua and Lake Managua, for steamboat navigation, known as the Tipitapa Canal. This work, which is not of large magnitude, has now been so thoroughly studied that plans can be prepared for construction and everything made ready for its speedy completion

within a short time.

At the Machuca Rapids, in the San Juan River, a considerable mass of rock has

been removed, improving the navigability of the river at this point.

About two years have elapsed since the old port was reopened, and the correctuess of the theories upon which the works for reopening and maintaining the harbor and its entrance were based has been thoroughly demonstrated to the satisfaction of the engineers. Hydrographic parties have been kept constantly at work, adding to their previous knowledge of tidal and other currents and in the preparation of charts showing the effect of the works of construction upon the coast line and the

In March, 1891, the Hon. Warner Miller, president of the Nicaragua Canal Construction Company, accompanied by a large staff, visited the Republic of Nicaragua and made a complete and thorough examination of the entire line of the canal and of the numerous works connected with the construction thereof. The reports received from this expedition were most gratifying, and showed that the work then accomplished had been done in a systematic manner, with all possible care, thoroughness, and dispatch, and within the estimates of the engineers.

In addition to the results already achieved, as hereinbefore set forth, the company has organized and established in Nicaragua a complete hospital service and has perfected the sanitary arrangements in and about its camps and headquarters. In the early part of 1889 the medical work was carried on by assistant surgeons located at different points along the canal route, but the department was not regularly organized until October of that year, when a chief surgeon was appointed and the hospital at headquarters was virtually completed and made ready for occupation.

This hospital at present consists of thirteen buildings, of which five are two-story structures surrounded by broad verandas. The remaining buildings of the group are one-story structures, for the most part built of wood. The total capacity of the are one-story structures, for the most part built of wood. hospital is 125 beds. It is situated on the beach, about 500 feet from the surf, and is equipped with a first-class pharmacy and operating room. Owing to the mildness of the climate, it is possible to provide perfect ventilation with a smaller number of cubic feet for each patient than would be considered necessary in a colder climate. In 1890 it was found necessary to erect, 8 miles up the railway line, at Camp Perez, a temporary hospital, known as temporary hospital No. 1, accommodating about 50 patients. This hospital consists of one large building, containing, in addition to the general laborers' ward, a pharmacy and nurses' room. A second building was

erected for culinary purposes. Medical stations have been established and operated at different times at points remote from the hospitals, according to the necessities of the work.

During the time covered by this report stations have been established at Camp Francis, on the beach; Carazo, on the San Juan River; Poco-Mas-Arriba; Satisfaction, on the Deseado River; Lake Silico; San Francisco River, and at Railway Camp No. 1. These stations are all on the Atlantic division. On the Pacific division stations have been operated at different times at Rivas and Tipitapa. In connection with headquarters hospital, an efficient ambulance service has been maintained since the fall of 1889. The company has also operated a road ambulance to stations on the beach and a car ambulance between the hospital and La Fé, at which latter place connections were made with the railway terminus, the navigation docks, and the breakwater. On the railway line an ambulance caboose car has been in use since the summer of 1891.

Every possible precaution against the development of disease among the company's employés has been observed, such as watching for and removing all local causes and preventing, as far as possible, the entrance into camps from outside sources of the germs of contagious or epidemic diseases, and by an efficient quarantine service. Every surgeon, in his section, exercises the duties of a sanitary inspector and reports to the chief surgeon any necessary changes in the camps or other surroundings. A supervision of the food furnished employés and the mode of its preparation is maintained. When a new camp is built the surgeon of the station inspects the location and surroundings and sees that hygienic rules are observed in its location and construction. The station surgeon reports every ten days upon the sanitary condition of all camps in his station.

Another method employed for prevention of disease among the company's employés has been a thorough physical examination of all laborers seeking to enter the service. It is easier to prevent the entrance of disease than to eradicate it when once lodged, and the advantage of this practice has been proven by the considerable decrease in the percentage of sickness among employés since the adoption of the rules. The staff of surgeons necessary to carry out the complete and careful scheme of work inaugurated by the company has been regulated in number by the character of the work, number of employés, relative distance of camps, and methods of

transportation.

There have been in the employ of the company since 1889, 1 chief surgeon and 10 assistant surgeons; also, 1 druggist and 2 assistant druggists. The other employés, including nurses, orderlies, cooks, ambulance men, etc., have varied in number from 20 to 30. There have been treated in the hospitals of the company during the past three years 2,364 patients. The total number of deaths was 35, making a total death rate of 148 per cent of cases treated. These deaths, however, include not only those due to climatic diseases, but also to accidents and chronic diseases among employés admitted to the company's service before the rules for a physical examination were adopted. The total number of deaths due to diseases that may be termed climatic were 17, or 0.72 per cent. From this record it will be seen that any existing opinion regarding the unhealthfulness of the climate in Nicaragua is erroneous. Far removed from the severity of the Northern winters, though geographically in the tropics, the temperature is moderate and equable throughout the whole year. The northeast trade winds temper the atmosphere and have a marked influence.

The mean temperature during 1890 was 77.25° F. In 1891 there was an extreme range of 28° from a minimum of 67° to a maximum of 95°, or a mean of 81° F. This difference of mean temperature was probably due to the decrease of the annual rainfall. It has been asserted that the country teems with fatal maladies and that the canal employés would be exposed to severe types of fever as soon as the work of excavation was commenced. This, however, has not proved to be the case, as an examination of the records and statistics kept by the medical department will show. The dredges have already advanced over a mile into the swamps without encountering anything but sand and light loam, which, exposed to the sun, produces no unusual sickness, and the borings prove that the soil as far as the foothills or the entire width of the swamp lands is of a similar character. Most of the diseases met with have been mild in type. This is especially true of bronchitis and pneumonia. The cases of fever are of the remittent or intermittent type, very amenable to treatment, and not of as long duration as in the United States.

No epidemic disease has visited the country since the work was begun, and the occasional reports which have been published in the daily press were without any foundation in fact. Chagres fever is entirely unknown as an epidemic disease, and in 1890, when a number of cases were brought on towing steamers in the service of the company from Colon to Nicaragua, every one taken to the canal hospital recovered, while of those admitted from the same ships to the Colon hospital a number

died.

For the accommodation of a working force of 10,000 men there will be required two general hospitals of 150 beds each for both officers and men, resembling very closely the present headquarters hospital, and two of 100 beds each for laborers, the general hospitals being located, one at the eastern end, the other near the western end of the canal, and the laborers' hospitals at convenient points along the line. These will provide 50 beds per thousand men, which will be ample, excepting in case of an epidemic, when it would be necessary to erect temporary hospitals wherever needed. A field equipment for a couple of temporary hospitals which could be used in the event of such an emergency could be kept constantly on hand. A properly arranged ambulance department, developed from the present nucleus, and a druggist department similarly developed from the central store, with a pharmacy connected with each hospital, are all provided for in the general plans, which are already to be put into operation as soon as a larger development of the work of construction is determined upon.

In conclusion, it is proper to say that the medical organization and the system of sanitation inaugurated by the company has proved itself to be exceedingly valuable in maintaining a death rate which is not only very greatly below that of any other known large work of construction in its hospital records, but also is very materially below the death rates of hospitals in the United States, as the following figures will show: In 1890, at the New York Presbyterian Hospital, the death rate was 10.73 per cent; in the Roosevelt Hospital, New York, it was 9.76 per cent; and in the Orange Memorial Hospital it was 7.88 per cent, while in headquarters hospital of the canal company it was only 1.38 per cent. The system which has operated with such exceptional results during the last three years may reasonably be expected to work

as satisfactorily in its extension.

The company has gone to its work of building the canal in a plain, unostentatious, systematic manner, and although nearly all accomplished to date may be described as preliminary work only, yet a very important advance has been made. The results may be summarized as follows:

WORK ACCOMPLISHED.

(1) The prosecution of the final surveys for location and construction and surveys for economical improvements as to details.

(2) The subterranean examinations of the strata requiring removal by means of

borings with the diamond drill.

(3) The restoration of the harbor of San Juan del Norte to the extent of securing an easy entrance to the port for vessels of moderate draft.

(4) The construction of extensive wharves and landing facilities.

(5) The erection of permanent buildings for offices, quarters, hospitals, storehouses, shops, etc., having a floor area of an acre and three-fourths.

(6) The building of a large number of temporary camps along the line for accomo-

dation of employes.

(7) The completion of a telegraph line permitting ready communication with the work.

(8) The clearing of the canal line of timber for some 20 miles.

(9) The completion of surveys for location and of plans for construction of the railroad system, and the construction and equipment of 11 miles of this line.

(10) The acquisition by purchase of the most valuable and powerful dredging plant to be found in America under one management.

(11) The fitting up and operation of this plant and the opening of over a mile of (12) The acquirement by purchase of the valuable and exclusive franchise for the

steam navigation of the San Juan River and Lake, together with the extensive plant of the navigation company, consisting of offices, lands, steamboats, tugs, lighters, repair shops, etc.

(13) And lastly, what is felt to be the most important result of all is the demonstration, secured by experience, of the salubrity of the climate, the efficiency of labor, and the sufficiency of the estimates of the chief engineer for the harbor and canal

dredging and railroad work.

The Government of Nicaragua, by a communication dated November 8, 1890, has officially recognized and declared that the company has more than complied with the provisions of article 47 of the concession, requiring the expenditure of \$2,000,000 during the first year of the work. This formal acknowledgment confirms the company's title to the concessionary rights for a term of ten years in which to complete

A detailed description of the proposed canal and the work to be accomplished in its construction, together with the maps showing the route thereof as the same has been finally located, was annexed to the annual report of the company for the year 1890, to which reference is hereby made for said particulars.

In witness whereof the Maritime Canal Company of Nicaragua has caused its corporate seal to be hereunto affixed and these presents to be signed by its president and secretary, this 3d day of December, A. D. 1892.

THE MARITIME CANAL COMPANY OF NICARAGUA,

By HIRAM HITCHCOCK, President.

[SEAL.]

THOS. B. ATKINS,
Secretary.

STATE OF NEW YORK, city and county of New York, se:

Hiram Hitchcock, being duly sworn, says: That he is the president of the said The Maritime Canal Company of Nicaragua; that he has read the foregoing annual report and knows the contents thereof, and that the same is in all respects correct and true.

HIRAM HITCHCOCK.

Sworn to before me this 3d day of December, 1892. [SEAL.]

V. BIGELOW, Notary Public, New York County.

STATE OF NEW YORK, city and county of New York, 88:

Thomas B. Atkins, being duly sworn, says: That he is the secretary of the said The Maritime Canal Company of Nicaragua; that he has read the foregoing annual report and knows the contents thereof, and that the same is in all respects correct and true.

THOS. B. ATKINS.

Sworn to before me this 3d day of December, 1892. [SEAL.]

V. BIGELOW, Notary Public, New York County

STATE OF NEW YORK, City and County of New York, 88:

On the 3d day of December, 1892, before me personally came Thomas B. Atkins, known to me to be the secretary of The Maritime Canal Company of Nicaragua, and with whom I am personally acquainted, who, being by me duly sworn, did depose and say: That he resided in the city of New York; that he was the secretary of the Maritime Canal Company of Nicaragua; that he knew the corporate seal of said company; that the seal affixed to the foregoing report was such corporate seal; that it was so affixed by the order of the board of directors of said company, and that he signed his name thereto by the like order as secretary of the said company.

And the said Thomas B. Atkins further said that he was acquainted with Hiram Hitchcock and knew him to be the president of said company; that the signature of the said Hiram Hitchcock subscribed to the said instrument was in the genuine handwriting of the said Hiram Hitchcock and was thereto subscribed by the like order of the said board of directors and in the presence of him, the said Thomas B.

Atkins.

In witness whereof I have hereunto set my hand and official seal this 3d day of December, A. D. 1892.

[SEAL.]

V. BIGELOW, Notary Public, New York County.

EXHIBIT 2.

[Senate Ex. Doc. No. 5, Fifty-third Congress, second session.]

LETTER FROM THE SECRETARY OF THE INTERIOR, FORWARDING REPORT OF MARITIME CANAL COMPANY OF NICARAGUA.

DEPARTMENT OF THE INTERIOR, Washington, December 5, 1893.

SIR: I have the honor to transmit herewith, for the information of the Senate, the original report of the Maritime Canal Company of Nicaragna, submitted to this Department this day, in compliance with the requirements of section 6 of the act of Congress approved February 20, 1889, entitled, "An act to incorporate the Maritime Canal Company of Nicaragua."

Very respectfully,

Hoke Smith, Secretary.

NEW YORK, December --, 1893.

Sir: Pursuant to section 6 of the act entitled "An act to incorporate The Maritime Canal Company of Nicaragua," approved February 20, 1889, which provides that said company shall make a report on the first Monday of December in each year to the Secretary of the Interior, and in accordance with instructions prescribing the form of such report and the particulars to be given therein, the said Maritime Canal Com-

pany of Nicaragua reports as follows:

First. That the regular annual meeting of the company was held at No. 44 Wall street, in the city of New York, on the 4th day of May, 1893, pursuant to the provisions of the by-laws, and that at such meeting Messrs. Joseph Bryan, James Roosevelt, Hiram Hitchcock, Thomas B. Atkins, and Horacio Guzman were duly elected directors of said company to fill the places made vacant by the class whose term of office expired on the said 4th day of May, 1893, and to serve for the period of three years as provided for in the said act of incorporation, and that at the same time Mr. Poleett Sturgis was elected as director to fill a vacancy existing in the time Mr. Robert Sturgis was elected as director to fill a vacancy existing in the class of 1895, and Mr. Samuel Barton was elected as director to fill a vacancy in the class of 1894. Mr. Barton failed to qualify and Mr. F. F. Thompson was subsequently elected to fill the vacancy in the class of 1894. Since then Mr. A. B. Darling and Mr. Alexander T. Mason of the class of 1894 have resigned and the vacancies caused by their resignations have not yet been filled.

Second. That the board of directors of said company as now constituted is com-

posed of the following stockholders:

Class of 1894.—Franklin Fairbanks, C. Ridgeley Goodwin, and F. F. Thompson. Class of 1895.—Charles P. Daley, Daniel Ammen, Horace L. Hotchkiss, Henry E. Howland, and Robert Sturgis.

Class of 1896.—Joseph Bryan, James Roosevelt, Hiram Hitchcock, Thomas B. At-

kins, and Horacio Guzman (Nicaraguan director).

A majority of the above-named directors are citizens and residents of the United

Third. That at the first meeting of the board of directors held after the said annual election the following officers were duly elected to serve for the ensuing year, to wit: President, Hiram Hitchcock; vice-president, Charles P. Daly; secretary and treasurer, Thomas B. Atkins. All of the officers so elected are citizens and residents of the United States. That at said meeting the following directors were elected members of the executive committee, as provided for in the by-laws of said company, to wit: James Roosevelt, chairman; Hiram Hitchcock, Horace L. Hotchkiss, Henry E. Howland, and Alexander T. Mason.

Fourth. That since the organization of the Maritime Canal Company of Nicaragua 10,145 shares of the capital stock of said company have been subscribed for at par, amounting in the aggregate to the sum of \$1,014,500, of which amount \$1,006,940 has been paid into the treasury in cash; that there has been paid into the treasury from other sources \$48,871.62, making the total amount of cash received

\$1,055,811.62

Fifth. That since the organization of the company it has paid for property, work, and labor done, and materials furnished in the execution of the work of constructing the canal and in administration expenses, the sum of \$830,778.67 in cash and 31,990 shares of the full-paid capital stock of the company of the par value of \$3,199,000, and is obligated for \$6,855,000 of its first-mortgage bonds. It has also issued 180,000 shares of its capital stock of the par value of \$18,000,000 in payment for concessionary rights, privileges, franchises, and other property.

Sixth. That the liabilities of the company consist of the amounts still due under

the concessions granted to the company; of the \$6,855,000 of bonds before mentioned, the said bonds being due to the Nicaragua Canal Construction Company for work and labor done and materials furnished in the execution of the work of constructing the Interoceanic Canal, and of cash liabilities outstanding and unpaid to

an amount not exceeding \$50,000.

Seventh. The assets of the company consist of its capital stock, of the concessions, rights, privileges, and franchises which it now owns, and of the plant, equipments, materials, lands, buildings, structures, railways, steamboats, telephone and telegraph lines, dredges, locomotives, cars, machinery, stores, machine shops, supplies, and other property in Central America, including the lands situated between the lake and the Pacific, purchased from the Government of Nicaragua for the route of the canal, at a cost of \$50,000, in accordance with the provisions of the Nicaraguan concession. In our annual report for 1892 we submitted a statement of the work that had

been accomplished up to that date; since then the unprecedented conditions of the money market have been the cause of serious embarrassment to all enterprises that depended upon the sale of securities for means to prosecute their undertakings. The Nicaragua Canal Construction Company, under contract with this company for the construction of the canal, suffered under the general conditions in common with others, and was obliged first to limit its expenditures to what was requisite for protection and preservation of its plant, and finally to suspend all payments.

resulted in the appointment, on August 30, 1893, by the circuit court for the United States for the southern district of New York, of a receiver for that company. The secretary and treasurer of that company was appointed such receiver.

The result of this condition of affairs is that no material advancement in con-

struction work has been accomplished since the report made by the company to the Department in December, 1892, and, therefore, we beg to refer to that report as show-

ing substantially the present condition of the work.

Upon the appointment of the receiver measures were inaugurated by shareholders of the construction company for the reorganization of that company upon a strong financial basis, providing for the liquidation of its indebtedness and the active prosecution of work under its contract, in the immediate future. These measures are now well under way with the every assurance of a successful issue, and the Maritime Canal Company is awaiting the result.

In witness whereof the Maritime Canal Company of Nicaragua has caused its

corporate seal to be hereunto affixed and these presents to be signed by its president and secretary this 4th day of December, A. D. 1893.

THE MARITIME CANAL COMPANY OF NICARAGUA. By HIRAM HITCHCOCK,

[SEAL.]

President. THOS. B. ATKINS, Secretary.

The SECRETARY OF THE INTERIOR, Washington, D. C.

STATE OF NEW YORK, City and County of New York, so:

Hiram Hitchcock, being duly sworn, says that he is the president of the said The Maritime Canal Company of Nicaragua; that he has read the foregoing annual report and knows the contents thereof, and that the same is in all respects correct and true.

HIRAM HITCHCOCK.

Sworn to before me this 4th day of December, 1893. SEAL.

V. BIGELOW, Notary Public, New York County.

STATE OF NEW YORK, City and County of New York, 88:

Thomas B. Atkins, being duly sworn, says, that he is the secretary of the said The Maritime Canal Company, of Nicaragua; that he has read the foregoing annual report and knows the contents thereof, and that the same is in all respects correct and true.

THOS. B. ATKINS.

Sworn to before me this 4th day of December, 1893. [SEAL.]

V. BIGELOW, Notary Public, New York County.

STATE OF NEW YORK, City and County of New York, 88:

On the 4th day of December, in the year 1893, before me personally came Thomas B. Atkins, known to me to be the secretary of the Maritime Canal Company, of Nicaragua, and with whom I am personally acquainted, who, being by me duly sworn, did depose and say, that he resided in Roselle, N. J.; that he was the secretary of the Maritime Canal Company, of Nicaragua; that he knew the corporate seal of said company; that the seal affixed to the foregoing report was such corporate seal; that it was so affixed by the order of the board of directors of said company, and the the signal big mental that it has the side of t and that he signed his name thereto by the like order as secretary of the said company.

And the said Thomas B. Atkins further said that he was acquainted with Hiram Hitchcock and knew him to be the president of said company; that the signature of the said Hiram Hitchcock subscribed to the said instrument was in the genuine handwriting of the said Hiram Hitchcock, and was thereto subscribed by the like order of the said board of directors and in the presence of him, the said Thomas B.

In witness whereof I have hereunto set my hand and official seal this 4th day of December, A. D. 1893.

[SEAL.]

V. BIGELOW. Notary Public, New York County.

EXHIBIT 3.

It has been commonly said that the attractive influence of the Nicaragua Canal will be felt as far as the meridian 110° east from Greenwich. There can be very little doubt as to the general correctness of this opinion; there is room for question whether it will not be felt even beyond that limit.

Owing to favoring winds and currents which prevail in the Pacific it is no unusual thing for English sailing vessels which make the outward voyage to Hongkong or

Australia by the way of Good Hope to return around Cape Horn. Sailing vessels can only avail themselves of the shortened distance of the Suez route by towage through the entire length of the Red Sea, as well as through the canal, a total distance of 1,310 miles; whereas the entire length of the Nicaragua Canal is but 169½ miles through, which distance the cost of towage would not be a prohibitive expense, and the shortened distance, together with favoring winds and currents already availed of, in return voyages as but just mentioned, would extend the influence of

the canal as regards return voyages even beyond the dividing meridian.

One hundred and ten degrees east from Greenwich includes, so far as the United States is concerned, the entire coast of China with the ports of Macao, Hongkong, Shanghai, and the island of Formosa, the Kingdom of Corea, the Empire of Japan, the Philippine Islands, Borneo, New Guinea, Australia, Tasmania, New Zealand, and, in fact, almost all of the islands of the Pacific. These points, together with the entire inhabited portion of the Pacific coast of the American Continent, are brought nearer to the eastern ports of the United States by distances varying from 3,000 to 10,000 miles. But what is of still greater importance is that all of them are brought nearly the whole width of the Atlantic Ocean nearer to New York than to European ports. New York and Liverpool are now practically equidistant from Valparaiso, Callao, Acapulco, San Francisco, and all intermediate ports, but with the opening of the canal New York will be brought 2,700 miles nearer these ports than Liverpool. At the same time Valparaiso, on the Pacific coast of South America, is brought 1,000 miles nearer to Liverpool and other European ports than by existing routes, and points north of Valparaiso are approximated by distances varying from 1,000 to 6,000 miles.

In view of these conditions it is not unreasonable to claim that all commerce existing within the limit designated will be subject to the attractive influence of a canal across the American isthmus, although there may be differences of opinion as to the

degree to which that attraction will be felt.

Be

In the years 1889 and 1890, according to the latest accessible returns, principally taken from the Statistician's Year Book and the United States Reports on Commerce and Navigation published in 1891, there was transacted between the points severally named in the following tables commerce to the amount of the value indicated:

TABLE A .- Traffic entirely tributary to the canal.

et	ween—	
	Great Britain and United States Pacific ports	\$31, 229, 063
	France and United States Pacific ports	2, 276, 049
	Germany and United States Pacific ports	1, 287, 129
	Belgium and United States Pacific ports	
	Italy and United States Pacific ports	
	Cuba and United States Pacific ports	
	Brazil and United States Pacific ports	513, 077
	Great Britain and Ecuador	1, 693, 030
	Great Britain and Peru	11, 260, 380
	Great Britain and Chile	65, 390, 571
	France and Chile	7, 857, 426
	Germany and Chile	14, 098, 930
	Belgium and Peru	7, 031, 400
	Belgium and Chile.	433, 500
	Belgium and China	304, 900
	Rest of Europe and western coast of South America	5, 000, 000
	Europe and Pacific ports of Mexico (Acapulco, Manzanillo, San Blas,	
	Mazatlan)	5,000,000
	Great Britain and Japan	33, 732, 534
	Germany and Japan	6, 526, 283
	Holland and Belgium	1, 550, 420
	Great Britain and New Zealand	53, 429, 965
	United States (Atlantic ports) and Japan	13, 796, 115
	United States (Atlantic ports) and Hongkong	2, 303, 982
	United States (Atlantic ports) and China	14, 164, 632
	United States (Atlantic ports) and New Zealand	3, 419, 000
	United States (Atlantic ports) and Australia	11, 472, 003
	United States (Atlantic ports) and Philippine Islands	10, 101, 362
	United States (Atlantic ports) and Hawaiian Islands	469, 500
	United States (Atlantic ports) and Chile	5, 789, 411
	United States (Atlantic ports) and Peru	1, 573, 530
	United States (Atlantic ports) and Ferd	1, 063, 721
	Outrod Sources (Atlantic ports) and Echador	1,000,121
		012 000 102

315, 038, 165

To this aggregate must be added: For existing traffic between Pacific ports of the United States and British Columbia with Atlantic ports, value not returned, esti-

mated at 250,000 tons. For canned and dried fruits, wines, canned salmon, shingles, hops, wool, etc., transported by the railroads in 1890 to the amount of over 250,000

All of the foregoing is traffic which, because of the manifest advantage to it in the saving of distance or cost, or both, must certainly make use of the canal. It has been questioned whether all of the business of the Pacific coast of South America will find it advantageous to use the canal, inasmuch as the saving of distance at Valparaiso for steamers which pass through the Strait of Magellan is but little more than 1,000 miles; this, however, is not a fair statement of facts. Nine-tenths of the business is transacted by the Pacific Steam Navigation Company, which run their vessels from Liverpool to Callao, stopping at Valparaiso and other ports en route. The distance via the Strait of Magellan from Liverpool to Callao, which is the actual length of the voyage, is about 9,960 miles. The distance, making the voyage in the opposite direction via the Nicaragua Canal, would be 7,734 miles to Valparaiso, without reference to calling at the intermediate ports, which would be about the same in either direction, or a saving of at least 2,226 miles on the voyage. For sailing vessels which can not avail themselves of the shorter route by "the Straits," but must double Cape Horn on their passage, Valparaiso, without regard to Callao, will be within the zone of canal attraction. For this reason the entire amount of this commerce is included in Table A.

TABLE B .- Traffic within the zone of the canal's attraction, but not entirely tribu-

tary to it:

Between Central America and all countries:

Between Central America and all countries:		
Guatemala, exclusive of specie		
Salvador, exclusive of specie	8, 559, 836	
Nicaragua, exclusive of specie	5, 644, 408	
Costa Rica, exclusive of specie	10, 029, 283	
		\$41,652,264
Between Hongkong and Great Britain.		16, 500, 000
Between China and Great Britain		55, 272, 430
Between China, Germany, France, etc		22, 700, 469
Between Australia and Great Britain:		22, 100, 400
New South Wales	00 505 150	
	88, 505, 150	
Queensland	21, 258, 125	
South Australia	24, 250, 570	
Victoria	82, 256, 300	
West Australia	3, 712, 100	
-		219, 982, 245
Between—		
Australia and Belgium		3, 543, 470
Australia and Germany		14, 651, 250
Australia and Switzerland		842, 812
Australia and Sweden and Norway		2, 560, 825
Tasmania and Great Britain		4, 051, 610
Philippine Islands		19, 372, 075
Japan and France		17, 592, 895
New Caledonia, Tahiti, etc., and France		1, 565, 812
		1, 000, 012
Between Pacific ports of the United States and—	0 000 007	
Hongkong	3, 238, 087	
China	5, 033, 735	
Japan	12, 540, 938	
Australia	3, 973, 754	
Philippine Islands	1, 613, 451	
Hawaiian Islands	16, 555, 725	
_		42, 955, 690
Total		463, 243, 847
		,

(For analysis and distribution of these tables see pp. 9, 10, and 11.)

In addition to the commerce included in these tables, there is a large business between Great Britain and the straits settlement and between Holland and Great Britain and the Dutch East Indies, in which the United States does not now participate, except to a very limited extent through the Pacific ports, or as purchaser in the markets of England and Holland. With the development of commerce between the United States and the coasts of Asia and the Pacific islands consequent upon the opening of the canal, it will naturally follow that this business, lying so near to the dividing line, although actually beyond it, shall, to some extent, contribute to the aggregate of the canal traffic, as being within advantageous reach of voyages from Atlantic ports of the United States undertaken originally perhaps to other adjacent points, but extended to embrace this business incidentally.

To determine the "tonnage equivalent" of the commerce, which enters into the foregoing tables in the form of values only, the only form in which the information is accessible in the aggregate, other statistical information furnishes valuable data.

A considerable portion of the aggregate is in low price commodities carried in large bulk; as the wheat of California and Chile and the nitrates and guano of Chile, shipped to Europe, and the coal oil of the United States shipped to Japan, China, and other points of destination. The value and bulk of these commodities is definitely reported, and thus removed from the field of estimate. For the remainder, a careful consideration of other well-established statistics will afford a satisfactory unit of valuation, or an average value per ton, by which may be determined the bulk represented by so many millions of dollars of value. This method is made necessary by the fact that the shipping returns of tonnage entered and cleared are frequently misleading. In the South American States, the same vessel is often registered in more than one port of the same country, and is thus made to count twice or more in the tonnage reports. The only traffic data of those countries, of reliability, are the values of exports and imports, which, from the channel through which they are collected—customs returns—are not apt, at all events, to be exaggerated.

The total foreign commerce of the United States for the year ending June 30, 1890,

is reported as follows (merchandise only):

	Tons.	Value.
Entered, cargo only	14, 111, 944 15, 930, 385	\$789, 310, 409 845, 293, 828
Total	30, 042, 329	1, 634, 604, 337

Average value of 1 ton, \$54.41.

Statistics for Great Britain, France, and Germany are as yet complete and accessible only for the year 1889. In that year the commerce of Great Britain and other countries was as follows:

	Tons.	Value.
Entered, cargo only	28, 517, 000 33, 048, 000	£427, 595, 442 313, 874, 970
Total		741, 470, 412

Average value of 1 ton, £12 10d=\$58.76.

The commerce of France with foreign countries for 1889, by sea, was as follows:

	Tons.	Value.
Entered, cargo only		Francs. 3, 670, 000, 000 3, 246, 000, 000 6, 916, 000, 000

Average value of 1 ton, 310 francs = \$59.52.

Of Germany, the only statistics available for use are those of the port of Hamburg, which is the principal port of entry of the German Empire. They are as follows:

•	Tons.	Value.
Entered, cargo only	3, 496, 303	Marks. 1, 245, 581, 000 1, 206, 415, 000 2, 451, 996, 000

Average value of 1 ton, 807 marks = \$73.33.

We have thus the commerce-

	Tons	Per ton
Of Great Britain Of France Of Hamburg Of United States	61, 565, 000 22, 233, 088 7, 966, 001 30, 042, 329	\$58. 76 59. 52 73. 33 54. 48

Making a total of 121,806,415 tons of merchandise, at \$58.84 per ton, as its average value.

It is to be borne in mind that these returns are of registered tonnage, and the unit

value thus established is for "registered," not actual tons.

In 1890 the wheat and flour fleet from San Francisco carried 780,000 tons of wheat and flour at a valuation of \$21,250,000, to Europe. Chile sent 860,000 tons of wheat at a valuation of \$21,250,000, to Europe. Chile sent 860,000 tons of nitrates, at a valuation of \$2,290,410, and 75,000 tons of wheat, at a valuation of \$2,111,412. Peru sent about 75,000 tons of nitrate and 6,000 tons of guano, at a valuation of \$350,000. Deducting this tonnage at its valuation, viz, 1,796,000 tons, at a value of \$51,011,822, from the total tonnage and valuation of European commerce, viz, 91,764,089 tons, valued at \$5,531,784,255, the average tonnage value of the remainder is \$60.90.

In the year 1890 the United States exported coal oil, crude and refined, to the value of \$47,147,163, over 3,300,000 tons in bulk. Deducting this and the tonnage and value of the wheat exports of California from the total tonnage and value of the commerce of the United States, the average value of the remainder is \$62.23, or again adding together the value and tonnage of the coal oil traffic and the value and bulk of the wheat, nitrates, etc., as previously given, and deducting the totals this time from the total tonnage and valuation of the commerce of the four great maritime nations, \$7,166,388,592 and tons 121,806,415, the average value of the remainder is \$60.54 per ton.

From the foregoing, it appears just to assume \$62 per ton as a unit of value certainly not too low wherewith to transmute the values of ordinary commerce, the bulk of which is unknown, over and above that which is known, into correspondent

tonnage quantities.

Of the exportation of coal oil from the United States, 714,150 tons of illuminating oil, at a valuation of \$13,974,134 was shipped to foreign ports on the Pacific in addition to large quantities shipped to San Francisco, San Diego, Portland, and other home ports. Seven million four hundred and seventy-two thousand nine hundred

and sixty gallons, or about 37,000 tons were shipped to San Francisco alone.

Of the large aggregate shipped to foreign ports, the principal portion was transported by sailing vessels around one or the other of the capes, as such craft could not avail themselves of the shorter route by Suez, for the reasons before given; but as sailing vessels will be able to make use of the Nicaragua Canal, this entire business with its increase, will naturally take that route. Three hundred and eightytwo thousand six hundred and ten tons of it at a valuation of \$7,745,740 was carried between ports included in Table A; 95,000 tons at a valuation of \$1,837,481 between ports in Table B, and 236,540 tons, valued at \$4,390,913 was distributed between British and French East Indies and Oceanica.

The aggregate of the commerce included in Table A amounts to \$315,038,165. Of this total \$21,250,000 represents shipments of wheat from San Francisco to Europe, 780,000 tons; \$27,290,410 shipments of nitrates from Chile, 860,000 tons; \$2,111,412 shipments of wheat from Chile, 75,000 tons; \$350,000 shipments of nitrates and guano from Peru, 81,000; 7,745,000 shipments of coal oil from United States to ports in Table A, \$382,610 tons; \$256,291,343, the remainder of Table A, represents general traffic between ports indicated. Taken at the average value of \$62 per ton it is equivalent to 4,133,730 tons.

For existing traffic around Cape Horn and via Isthmus of Panama between ports of the United States and with British Columbia, estimated at 250,000 tons.

For transcontinental railroad traffic in 1890 California exported from the port of San Francisco 148,446,150 pounds of canned and dried fruits, including raisins; 1,623,867 cases of canned salmon; 4,500,000 gallons of wines and brandy; 5,734,120 pounds of hops, and 22,662,000 pounds of wool, fully 90 per cent of which was transported by sail across the continent. Portland, Seattle, Tacoma, and other cities were also large exporters of like commodities; quantities of shingles were shipped from Puget Sound and all the places named were large importers of provisions by railroad. At a moderate estimate this business amounted to 250,000 tons; total, 6,812,340 tons.

The commerce included in Table B, amounting in the aggregate to \$463,243,847, while within the zone of the canal's influence, will be attracted by it only in part.

The value of coal oil shipped to Central America and the East Indies, Dutch, French, and British, etc., amounts to \$6,228,394, equivalent to (may be regarded as entirely tributary) 331,540 tons.

(The proportion taken by Central America is small, and therefore need not be

separated in the general estimate.)

The total commerce of the four States of Central America which have their principal ports on the Pacific amounts to \$41,652,264. As coffee constitutes the principal commodity of export, it is conceded that the average tonnage value is increased. One hundred dollars is therefore assumed as the unit of value in this case, at which rate the valuation is equivalent to 416,652 tons. A small portion of this business is transacted by the gulf ports; for this reason 60 per cent only is estimated as tributary to the canal, say, 250,000 tons.

The commerce of Hongkong, Shanghai, Japan, Australia, Tasmania, the Philippines, and other islands of the Pacific with Europe amounts to \$378,635,893. As highpriced commodities also enter largely into this trade, we assume the same unit of value per ton as for Central America, say, \$100; the equivalent tonnage is 3,786,359 A very large proportion of this trade is now carried in sailing vessels which make their outward voyage by way of Cape of Good Hope and because of the favoring winds and currents return home by the longer route around Cape Horn,

Conceding that one-half of this total traffic (the outward bound) will not be affected, it is fair to consider 40 per cent of the remainder, or 20 per cent of the

whole, as tributary, say, 757,272 tons.

The business between Pacific ports of the United States and Hongkong, China, Japan, Australia, etc., is also in high-priced commodities, and amounts to \$42,955,690, which, taken at \$100 per ton, is equivalent to 429,557 tons. It is largely local trade of the Pacific slope, but some of it is transshipped by rail to Eastern ports; the

proportion tributary is estimated at one-eighth, say, 50,000 tons.

The shipments from the Straits Settlements and the Dutch East Indies to Great Britain and from the Dutch East Indies to Holland amount, in the aggregate, to a valuation of \$95,472,688, or, at an average per ton of \$100, to an equivalent of 954,727 tons. It is not included in Table B, being more remote and likely to yield but a small proportion, say, 10 per cent only, 95,473 tons. The aggregate of these estimates amounts to 8,296,625 tous.

This total may be regarded as the tonnage now existing, which if transit by the canal were possible to-day, would naturally seek that route and pay its tolls in

preference to following routes which are at present in use.

Statistics show the normal growth of commerce to be at the ratio of about 1 per cent per annum. Assuming that the canal will be completed and ready for use by the year 1897, and that the statistics which we have used are for the year 1890, we may add 7 per cent for natural growth, say 580,760 tons, making in round numbers 8,900,000 tons as the aggregate of the existing freight for which the canal at its opening will afford the most convenient route for transportation; but this is only allowing for a normal growth of commerce, but for manifest reasons growth in greater proportion than usual is to be expected whenever the near prospect of the canal's completion shall give such assurance of its availability as to induce immigration and warrant merchants in venturing upon new enterprises. Moreover, with the opening of the canal not only will a new route be provided, but new fields will be opened to commerce by the more advantageous provision for transport of the commodities of commerce, as was argued in the pamphlet on prospective traffic, published in 1890. In that pamphlet it was remarked:
"The products of Alaska, as well as of Washington and Oregon, mostly low-priced

commodities furnishing a large bulk of tonnage, will be carried at less cost to Eastern markets, the markets of the Western coast of South America will be opened to the low-priced coals of the Southwestern States, and the coasting trade now carried on with the West Indies to the extent of over 500,000 tons per annum will be multiplied beyond calculation. If a traffic of 500,000 tons has been developed between the United States and the Islands of the Carribean Sea, what may be expected when the markets of the Pacific coast of Columbia, Mexico, and Central America, of the States of Ecuador, Peru, Bolivia, Chile, and of southern California are opened to

the easy access of coasting vessels?

"In the existing lake and coastwise trade of the United States steel barges carrying from 1,500 to 3,000 tons freight, transported by powerful tugs, are taken at low cost to market points, and there left to discharge and reload for a return voyage, while their motive power returns without delay with freights, in similar barges, made ready for departure before its arrival. Thus movement of freight is accelerated, invested capital is made to yield its largest returns, shippers profit by the possibility of lowered rates and consumers by the possibility of lowered prices. Under such methods the traffic of the Sault Ste. Marie Canal has developed from 1,567,741 tons in 1881 to the enormous aggregate of 8,388,891 tons in 1891, and is still increasing. And this traffic has grown up in connection with the internal trade only of a portion of the Northwestern States with the East. Like results will follow similar methods, which are equally available in the waters opened up by the Nicaragua Canal, and American enterprise will not be slow to avail itself of the unprecedented opportunity. What people have ever had such an opportunity put before them ?"

We have already mentioned the products of the forests and fisheries of Oregon, Washington, and Alaska, and the products of British Columbia. Returning to the

subject, the following facts will be of interest:

The salmon pack of British Columbia, Alaska, Washington, Oregon, and California amounted in 1889 to 1,683,800 cases, about 84,200 tons, valued at \$9,064,000, exceedamounted in 1889 to 1,683,800 cases, about 84,200 tons, valued at \$9,064,000, exceeding in quantity the pack of 1888 by 527,000 cases; 680,000 cases of the product was from Alaska and 422,000 from British Columbia. This is a growing industry. The pack amounted in 1880 to only 679,490 cases; in ten years it has increased nearly 250 per cent; by 1897, at the same ratio of increase, it will amount to nearly 3,500,000 cases. Hop-growing as an industry was commenced in 0regon and Washington in 1865. In 1889 the product was 70,000 bales, regularly quoted and competing with other goods in the New York market. The fur-seal and whale fisheries are

also growing and important industries.

The cultivation of India rubber as an industry in Central America and on the western coast of California is already attracting attention. The increasing demand for the gum and the destruction of trees in their natural state by the reckless huleros, or native gum-gatherers, makes attention to an artificial supply for future demands of manufacture imperative. Already large manufacturing corporations in this country are making plantations to meet it. The huleros are so careless that not only are they destructive of the trees, but much of the gum brought by them to market is in bad condition and commands only 26 cents per pound, whereas when properly collected it is worth as much as 80 cents for the best quality. The tree grows naturally in Central America and Mexico. The western coast of the lastnamed country and of southern California between the ocean and 1,800 to 2,000 feet of elevation above the level of the sea seems particularly favorable to its best development. A plantation is made with shoots gathered in the forests, and with proper care will be in condition to yield a crop in six or seven years. A tree in good condition yields 10 to 12 pounds per annum, and, if not maltreated, continues to yield year after year, apparently without limit. Its yield is worth, according to quality—which depends chiefly upon its treatment—from 50 cents to 80 cents per pound. This, too, is an industry which will pay tribute to the canal.

But in the forests of the northwestern Pacific coast there already exists material which needs only the facilities of the canal for its transportation to a favorable market to yield a tonnage which alone will probably exceed that of all other industries combined. The wonderful growth of the lumber trade of that section under present limitations of transportation is an indication of the magnitude to which it will grow with the opening of new and more extended markets by the shortening of distances to them on lines within the still waters of the Temperate and Torrid zones instead of by the routes now existing through the tempestuous seas of the

storm zone.

In 1886 the shipment of lumber from Oregon amounted to 6,000,000 feet, equal to 12,500 tons; in 1887, to 48,000,000 feet, equal to 100,000 tons. In 1888 the amount cut amounted to 706,985,000 feet, and the shipments abroad to 471,325,000 feet, equal to 981,925 tons, or nearly 1,000,000 tons.

Concerning the lumber trade with Eastern markets, the Post-Intelligencer, of

Seattle, Wash., published the following under the dates indicated:
"July 11.—The sound sawmills (Puget Sound) have lately been filling special
Eastern and Southern orders for extra length stuff. Quite a large number of huge spars have been lately shipped from sound ports to the East where there is ever an active market sale for that material.

"July 14.—The Puget Sound cedar shingles were first entered in the Eastern markets five years ago. The demand for them has ever since steadily increased, and now shingle mills all over the sound are shipping their products East as far as Ohio

(i. e. railroad routes)."

The forests of Maine no longer yield the timber needed for masts and spars of large vessels. In the forests of Oregon trees grow to 12 feet in diameter and 300 feet in The average length of a cargo of sticks taken to Boston from Puget Sound by the bark Crapo, in 1890, was 126 feet, and their average diameter 39 inches. Sixty of these sticks were bought by a shipbuilder of Bath, Me., and were made into a raftand towed around to his yard. This fact shows how depleted the Maine forests are of spar timber. Cuba has attempted the importation of lumber for building purposes around Cape Horn, but found the experiment too costly to be continued. In our Southern States their own hard pine, though less desirable, is taking the place of soft pine because of advancing prices. All these demands will be met and supplied from the Oregon and Washington lumber fields with the opening of the What this demand and supply will actually amount to is mere conjecture, but considering the coastwise trade as a whole, including the mahogany, rosewood,

ironwood, and teak of Southern Pacific coasts, the growing trade of Central America in coffee, cocoa, india rubber, mahogany, and other hard woods, the furs of Alaska, and the seal fisheries, whale oil, wheat, canned salmon, and other products of British Columbia, Washington, and Oregon, spar timber, and other lumber from the forests, and our outbound trade in coal, textile fabrics, agricultural implements, machinery, iron goods, etc., an addition of 1,000,000 tons per annum will be conceded to be none too great an allowance.

The aggregate of the traffic, apparent at present, from which the canal may be expected to derive its business and its revenue, amounts, then, to 8,900,000 tons, to which may be added at least 1,000,000 tons for the traffic mentioned on foregoing pages, not to speak of those unforeseen and unexpected developments, of which the commerce of all new countries has always been prolific, whenever increased facilities have afforded more favorable opportunity for an exploitation of the natural resources of the region. In this respect the opportunity of the Nicaragua Canal is unique. The countries chiefly brought into nearer contact by the Suez Canal are old and densely populated. Europe with its population of 101 to the square mile, and Asia, with a population of 57 to the mile, or, to speak more precisely, England, France, and Belgium as parts of Europe, and India and China as parts of Asia, have very few new or untried resources yet remaining open for development. On the other hand, by the Nicaragua Canal, North America with a population of 14 to the mile, chiefly east of the Rocky Mountains; South America with a population of 5 to the mile, and Australia with a population of only 1.4 to the mile, all of them the abodes of vigorous, rapidly increasing, and enterprising populations, with as yet many only partially developed resources, the magnitude and value of which are already shown by such essays as have been possible under existing circumstances to be almost incalculable, are brought nearer to each other and into closer connection with Europe, by a channel of communication through a country unsurpassed in its natural beauties and resources, possessing a climate exceptionally healthy, which from its natural characteristics must, when facilities for travel are afforded, become a pleasure resort for travelers from all parts of the world.

It would seem that if the conditions for an unprecedented growth of population, commerce, and material prosperity ever existed anywhere, they exist here to a degree never before exceeded. The great success of the canal at Suez, not only in respect of its returns to those who ventured their capital in its construction, but more especially in the realization of all the advantages to commerce which were predicted of it by its projectors, is an assurance that the Nicaragua Canal, when completed, will find commerce ready to avail itself, at once, of its advantages, instead of waiting until the more venturesome spirits shall have tried them and proved their merits. Because of the great success at Suez, the advantages of canal transit have ceased to be subject of experiment, and have become demonstrated facts. The business of the Nicaragua Canal, therefore, will not be of small beginnings and slow growth, but will at once assume a magnitude commensurate with the opportunity; and it is not unreasonable to expect that of the 9,900,000 tons estimated as within the zone of attraction, at least two-thirds, or, say, 6,500,000 tons, will seek

the new route for transit as early as within the second year of its operation.

If the canal tolls be fixed at \$2.50 per ton this amount of traffic will yield a gross

revenue of \$16,250,000.

The cost of maintenance and operation of the canal after its completion can not be large. The route is made up principally of broad stretches of water, with natural banks, or of cuttings through solid rock, which, once made, will be permanent; and there are no sands drifting from widespread desert plains, as at Suez, to hent; and there are no sands diffing from widesplead desert plants, as a visue, to fill its channel continually and make necessary large and unceasing expense for heavy dredging. The cost of maintenance must, from the nature of things, therefore, be moderate. The operation of the lock of the Sault Ste. Marie Canal, which passed nearly 7,500,000 tons in the season of 1890-'91, together with all other expenses of that canal for that year, amounted to \$45,417. Allowing \$50,000 for each of the 6 locks of the Nicaragua Canal for operating alone, and making a similarly libral ellowage for resistances administration and all other expenses the total liberal allowance for maintenance, administration, and all other expenses, the total annual cost can not exceed \$1,500,000, which, on an annual traffic of 6,500,000 tons, at the rate of toll suggested, shows a net revenue of \$14,750,000, or 5 per cent on a total capitalization of \$295,000,000 to be realized immediately upon the attainment by the enterprise of such a condition of advancement as will afford opportunity for demonstration of its capabilities.

What the growth of its traffic and revenue may be from this point is, of course, a matter of conjecture, but in view of all the contingent conditions it can not fail to be large and rapid, and it is not unreasonable to believe that although the canal has been projected with a view to the accommodation of a large traffic, its capacity,

before many years shall have passed, will be taxed to the utmost.

[See Senate Report No. 1142, Fifty-second Congress, second session, p. 410; Senate Report No. 1944, Fifty-first Congress, second session, p. 187.]

FIFTY-FOURTH CONGRESS, FIRST SESSION.

May 6, 1896.

[Senate Report No. 871.]

Mr. Frye, from the Committee on Foreign Relations, submitted the following report:

The Committee on Foreign Relations have considered the several bills referred to it to facilitate the construction and maintenance of telegraphic cables in the Pacific Ocean for the use of the Government

in its foreign intercourse, and submit the following report:

The exigencies of commerce and the public necessity of intercourse between the United States and the Hawaiian Islands have prompted for ten years past various steps taken in Congress toward the establishment of a line of telegraph to Honolulu. The Senate at its last session by a decisive vote adopted, and the House by a large minority supported, a joint resolution directing the immediate construction of such a line at the sole expense of the United States, and this action was fully justified by existing conditions. For almost a century the interest of the American people in the Hawaiian Islands has never flagged. While the great powers of Europe have been appropriating to themselves the many valuable and strategic spots on the world's map, whereby to open up new markets for their products, or afford protection to their commerce and bases for their naval operations, the "manifest destiny" of Hawaii has so plainly placed those islands within the circle of American influence and protection that the whole world has stood aloof, and by common consent recognized their ultimate coalescence with the Republic of the United States.

Located in latitude 19° to 22° north and longitude 80° west from Washington, the Hawaiian Islands are the center of a circle embracing an area equal to one-tenth of the world's surface within which there is included no other island or group of importance to commerce, travel, or a naval establishment. They are the nearest land westward of the United States, and in the opinion of the late commander of our Army, Gen. John M. Schofield, who made a personal inspection of their position, harbors, etc., "constitute the only natural outpost to the defenses

of the Pacific coast."

Regarding the importance of their position, and the menace to our western coast their possession would be in the hands of any rival government, we have not only declared against the interference by any foreign power in their concerns, but have arrogated to ourselves the right of influencing their interests. To this end a treaty of reciprocity was entered into between the two Governments, January 30, 1875, by which certain products were to be received from and into the two countries "free of duty," and in which it was agreed on the part of Hawaii as follows:

It is agreed on the part of His Hawaiian Majesty that, so long as this treaty shall remain in force, he will not lease or otherwise dispose of, or create any lien upon any port, harbor, or other territory in his dominions, or grant any special privilege or rights of use therein to any other power, state, or government, nor make any treaty by which any other nation shall obtain the same privileges, relative to the admission of any articles free of duty, hereby secured to the United States.

In the year 1887 this treaty was renewed and extended by the two Governments, with the following agreement on the part of Hawaii:

ARTICLE II. His Majesty the King of the Hawaiian Islands grants to the Government of the United States the exclusive right to enter the harbor of Pearl

River, in the island of Oahu, and to establish and maintain there a coaling and repair station for the use of vessels of the United States; and to that end the United States may improve the entrance to said harbor and do all other things needful to the purpose aforesaid.

While the Government of the United States has not as yet availed itself of the privilege and "exclusive right to enter the harbor of Pearl River," it is more than probable that such action will be taken in the near future. It has been demonstrated by practical investigation and experiment that the cost of improving the entrance to said harbor, so as to admit any ship of the United States Navy, would be less than \$200,000. The value to the vessels of our Pacific squadron in being able to anchor in the clear, fresh waters of Pearl River, and thereby counteract the effect of the salt water and the rayages of insects, would alone pay for the expenditure of a much greater sum.

As a rendezvous for our Navy, from whence by means of telegraphic communication vessels can be instantly ordered to any part of the world, the importance of Pearl River Harbor to the United States is

incalculable.

Looking, then, to the establishing of telegraphic communication simply in the light of self-interest, the Government of the United States can not afford to neglect any opportunity for securing such communication upon favorable terms and acquiring such "exclusive control" as may be necessary to protect the interests of the Government.

The committee has found in the situation which resulted in the proposed contract an opportunity to secure the desired result, and with it the much larger end of direct connection with the telegraph system of Japan, which in its turn connects with China, India, Australia, and much of the world that is now reached from the United States only by making almost the circuit of the world.

This is brought within reach upon terms that relieve the United States from the first cost and risk of maintenance, as well as from the aspects of commercial venture. The price for private messages is limited almost to one-third what is now charged per word from the United States to Japan, while communication with Hawaii is provided at but 10 cents per word more than the price which competition has established for the multitudinous messages crossing the Atlantic.

The situation which permitted this arose from a concession made in August, 1895, by the Hawaiian Government to a citizen of the United States long identified with Hawaiian industries, which contemplates the laying of a telegraphic cable from Honolulu to the United States, and also an interisland telegraphic system, placing the whole of that

country in communication with it.

In aid of that undertaking the concession provides an annual subsidy of \$40,000 for twenty years, and bestows for the same period an exclusive right of landing. The latter has its value and doubtless had its cause in the growing activity of Australian and Canadian interests in seeking the cooperation of the English Government in the establishment of a telegraph line from Canada to Australia, to which a landing on one of the Hawaiian Islands is considered indispensable on account of electrical limitations that are necessarily involved. The value of priority lies in the fact that it may be regarded as for a long time to be exclusive, until such time as a second line can be regarded as a profitable venture, the first line being able to duplicate its cables at much less cost and risk.

This advantage of priority in crossing the Pacific the Hawaiian people have tendered to the United States, with access in addition to

all of their own islands. As first offered to the committee it involved only a line to the Hawaiian Islands. Against this it was reasonably urged that large interests exist which would materially suffer by the loss of profits now enjoyed from tolls on telegraphic messages between the United States and trans-Pacific points, and which for that reason could afford to invest in a cable from the United States to Honolulu, if that could be used to prevent the building of a through line across the Pacific. The result is a proposed through line, to be guarantied by a deposit immediately upon the passage of the bill and with payments to be suspended in ease of protracted interruption.

The Hawaiian Government, on its part, to secure immediate construction, has conditioned the continuing validity of its grant upon the rendering of "substantial assistance" by the United States, and also upon the further condition that the contractor commence work by May 1, 1897, thus reserving to that people the right and power in case their overture to the United States shall be declined to avail themselves of the movement to lay a cable from Canada to Australia, and secure for themselves and their commerce through English channels telegraphic connection with the world. To this aspect of the situation Canadian interests, governmental, commercial, railway, and telegraph, are actively alive.

Rival lines—Canadian and American—of steamers between Japan and North America are already supported by the commerce of Japan. That commerce itself goes naturally to either country and to its transportation and telegraph lines in proportion to the facilities accorded.

The imports and exports of the United States from and to Japan for the year ending June 30, 1895, were in the aggregate \$28,330,674. The function of the telegraphic cable, not merely in determining the relative facilities of intercourse but in developing new commerce by reason of the new facilities, seems obvious.

It may be said here, properly, that if a cable is laid from San Francisco to Japan there is reason to suppose that the proposed Australian line will be built from Australia to Honolulu only, and connect that

country with North America by that means.

The commerce of the Hawaiian Islands is not only chiefly with the United States, but in a sense which is unfortunately rare, is carried in vessels belonging to this country. Of 390 voyages made from the United States to Hawaii during the year 1893–94, 351 were made by vessels of this country. That these ships should be at the termination of each voyage distant on an average three weeks from communication with home, distant as nowhere else within commercial regions, is at least a wide departure from the policy of Great Britain, which has under subsidy not less than 10,000 miles of cable extending into the remotest commercial regions, at an annual cost to the Government of that country of \$450,000. The average rate of these subsidies (\$45 per mile) is about \$20 per mile in excess of the sum which in this case it is proposed to pay for a limited period, the messages of the United States to be carried free not only during that period, but in perpetuity.

In large proportion, also, proprietary interests in Hawaii are owned or operated, or both, by citizens of the United States. The committee regard this consideration also as of weight in determining the propriety of seconding such American effort in this direction as would result from enabling them to direct by telegraph, in case of need,

their interests in either country.

The extent to which the interests of the nation as such are involved may be seen by the fact that every telegraphic cable now crossing

the Atlantic from North America has its starting point in Nova Scotia. In the event of any severance of peaceful relations with Great Britain, communication by that channel would, of course, be immediately and, as it were, automatically closed and this country be dependent for telegraphic communication upon cables crossing the Atlantic from Brazil to Portugal, with all of the contingencies which that situation would involve, while the construction of a trans-Pacific cable, such as the bill provides for, would maintain direct communication by a channel not likely in any case to be involved at the same time with hostile measures.

The economic value, also, to the Government of such a line is illustrated by the fact that more than once within the past two years steam vessels of the Government have been dispatched posthaste to Honolulu and return, while only within the past few months a United States vessel of war was some time overdue and was the cause of grave apprehension for two weeks or more after the time when her arrival and safety at Honolulu would have been known if communication by telegraph were in existence. These matters of the past are liable at any day to be repeated on a scale of transcendent consequence if the situation arrives in any quarter to make immediate and active control of its war vessels on the Pacific indispensable to the United States at a time when communication by telegraph between the United States

and Europe via Nova Scotia is cut off.

The committee, as has been said, have preferred to report a bill for the construction and maintenance of the proposed cable by a private company, rather than a bill providing for its construction and maintenance by the United States, such as passed the Senate at the beginning of this year. They prefer this course, although an assignment and transfer to the United States is freely offered without charge and without other condition than that the contractor's obligations under it to the Hawaiian Government be performed by the United States. The construction proposed by the bill which in February passed the Senate was to Honolulu only. The construction now proposed is to the coast of Japan. The cost and risk of maintenance, in their judgment, are such as the United States should not avoidably incur, save for a strictly public purpose, while possible entanglements with foreign countries may be found easier of solution in the absence, rather than in the presence, of property belonging directly to the United States.

The question of whether or not the payment of \$160,000 a year for twenty years is reasonable was considered by your committee. They find that the cost of the cable, laid and in condition to be operated, will be at least \$3,000,000; the cost of a cable steamer, fittings, etc., \$400,000. The annual interest on these sums at 4 per cent would be \$136,000. The maintenance of the ship would cost \$125,000 a year; operating expenses of the cable, \$75,000 a year; breakage, repairs, etc., \$250,000 a year for the first five years, making a total annual cost of \$586,000.

These figures were obtained in part by Mr. Spalding, who represents the Pacific Cable Company, a New Jersey corporation, and in part from Mr. Schrymser, president of the Pacific Cable Corporation of New

York.

As to the reasonableness of the annual charge of \$250,000 for the first five years for maintenance, repairs, etc., the committee annex a letter from President Schrymser, dated New York, February 8, 1896.

Tried by this test, which is believed to be a fair one, the annual cost for maintenance alone of a cable from the United States to Japan by way of Honolulu, or by any other route, must be largely in excess of the total amount payable under the bill now reported by the United States.

The bill has been made to provide that the arrangement shall be by contract with the United States through the Postmaster-General and the lowest bidder therefor, and shall be completed and continue under the supervision of that officer, because the telegraph being part of the machinery of communication such governmental control as is in different countries exercised is uniformly exercised through their respective postal departments, and that course has been pursued hitherto by the United States. The contract relation is believed to secure to the United States better control than a mere grant would do, while it is accepted by the company as giving to the grant an increased aspect

Your committee therefore recommend the accompanying bill as a

substitute for those referred.

PACIFIC CABLE COMPANY, 37 AND 39 WALL STREET, New York, February 8, 1896.

MY DEAR SIR: Referring to the statement I made to your committee as to the probable annual cost of repairs to the proposed cable between the United States and Hawaii, length being 2,483 miles, I now give you the following information respecting the cost of repairs and the amounts of reserve for repairs and renewals of the various cable companies:

Direct United States Cable Company.—This company's cable is 2,564 miles in length, and was laid between Ireland and Nova Scotia in 1875, twenty years ago. Its reserve fund, accumulated during that time, is £305.005, say \$1,500,000. It is stated that if the company were to be suddenly brought to its beam ends it would be short of the amount required to provide a new cable.

You will understand that it is the aim of all well-managed cable companies to provide a fund that will cover all repairs and also be sufficient to renew their cables, say, in twenty years, that being the estimated life of a deep-sea cable.

One repair of the Direct Cable Company's cable cost that company £58,814

Western Union Cable Company. - This company has two cables between England and Nova Scotia, each being about 2,562 miles in length. These cables were laid The company has had two interruptions to their cables. one of which lasted just short of a year, the other somewhat over a year. The steamer Furaduy, of 8,000 tons, was employed on the last repair expedition, at a cost of \$1,500 a day. She was out for over four months, being unable to make repairs, owing to bad weather. The steamer was obliged to remain in port for two months until fair weather would justify the work. She was again at sea for nearly two months, during which time nothing was heard from her, and it was feared that she had been lost. However, she recovered the cable and repaired it. It is known these two repairs cost over \$500,000, which includes the cost of the new cable employed in the repair.

French Cable Company.—This cable was laid between the coast of France and the island of St. Pierre, off Nova Scotia, in 1879. It is 2,281 miles in length. This company was unable to accumulate a reserve fund, owing to frequent interruptions. Its cable was interrupted during last June, since which time the steamers Faraday and Arago have been engaged endeavoring to make repairs, at an expense of \$1.500 a day. The Arago left St. Johns December 23, 1895, and has not

been heard of since that date.

Eastern Telegraph Company.—The cables of this company are of all ages, lengths, and weight, the seas in which they are laid differing very much as to the type of cable used. Its reserve fund amounts to £422,000 (\$2,110,000), and in the opinion of the chairman the reserve fund should be double that amount.

Mexican Telegraph Company.—This company operates 704 miles of cable between Galveston, Tex., and Vera Cruz, Mexico. It is a coast line and in water of about 100 fathoms in depth, therefore easily repaired at any season, and yet the board of

directors have deemed it prudent to carry to reserve \$1,007,000 during the past thirteen years, averaging \$77,461 per annum. You will observe that this cable has nothing like the risks of a remote deep-sea Pacific cable. It is about one-third the length of the proposed United States-Hawaii cable, and yet we have averaged a

reserve fund of \$77,461 annually for repairs and renewals.

These figures fully sustain my statement that it would be prudent to reserve at least \$200,000 or \$250,000 a year for the first five years to provide for the repair and renewal of the proposed United States-Hawaii cable. You will bear in mind that repairs in the Pacific Ocean will be at greater depths than in the North Atlantic, and that all cable and material will have to be transported thousands of miles, which will largely increase the cost as compared with repairs between England and the United States. No one can foretell the amount of cable necessary for a deep-sea repair. The Anglo-American Telegraph Company expended in 1894 in repairing its 1874 cable between Valencia and Hearts Content £74,360 (\$371,800), of which amount a little over £56,000 (\$280,000) was for a new cable inserted.

I think I have given you sufficient proof that it would require a reserve of \$250,000 a year to provide for the repairs and renewals on a cable between United States and Hawaii for the first five years, and thereafter at least \$150,000 a year

should be carried to reserve fund for that purpose.

I have the honor to remain, yours, very respectfully,

JAMES A. SCRYMSER, President,

Hon. WILLIAM P. FRYE, United States Senator, Washington, D. C.

This agreement, made this 12th day of August, A. D. 1895, by and between Sanford Ballard Dole, President of the Republic of Hawaii, for himself and his successors in office and in behalf of the Hawaiian Government, and by and with the consent of the cabinet, party of the first part, hereinatter called "the Government," and Zephaniah Swift Spalding, of Houolulu, Hawaiian Islands, party of the second part, hereinafter called "the contractor," witnesseth:

AGREEMENTS BY THE GOVERNMENT.

ARTICLE I.—Grant of exclusive franchise.

Section 1. In consideration of the covenants, agreements, and undertakings hereinafter contained on the part of the contractor or his representatives or assigns to be kept or performed, the said party of the first part, in the exercise of the power to him granted by the provisions of an act entitled "An act to facilitate the construction and maintenance of telegraphic cables in the Pacific," approved on the 12th day of August, A. D. 1895, and of every other power, if any, him hereunto enabling, doth hereby grant, concede, and confirm unto the contractor and his representatives and assigns, upon the terms and conditions hereinafter contained, the sole and exclusive privilege and franchise for and during the full term of twenty years from the 1st day of November, A. D. 1895, to construct or land upon the shores of the Hawaiian group a submarine electric telegraph cable or cables to or from any point or points on the North American Continent or any island or islands contiguous thereto.

SEC. 2. Cable to terminate at San Francisco and be maintained for twenty years.—
Provided, however, and this agreement is upon these express conditions, viz, that
the first cable which shall or may be constructed or laid under this franchise, and
for the maintenance of which a subsidy is herein agreed to be paid, shall have its
eastern terminus at or near San Francisco, Cal., and its western terminus at or
near Honolulu, and shall be maintained in working order in conformity with and
subject to the specifications, conditions, and agreements hereinafter contained for

the full term of this agreement.

SEC. 3. Exclusive grant not to conflict with treaty rights of foreign governments.—And further, that this grant shall not be construed to prevent any foreign government, having existing treaty rights with the Republic of Hawaii allowing any such government so to do, to land a cable upon the Hawaiian group for other than commercial purposes from any point on the North American Continent.

ARTICLE II.—Grant of subsidy.

Section 1. Amount and term of subsidy.—And the Government doth hereby further covenant with the contractor and his representatives and assigns, that there shall be paid to him, his representatives or assigns, by the Government of the

Hawaiian Islands, upon the terms and conditions hereinafter set forth, subject to ratification hereof by the legislature of the Republic of Hawaii, an annual subsidy of \$40,000, gold coin of the United States, for and during the period of twenty years from the date of the establishment by the contractor, or his representatives or assigns, of telegraphic communication between the city of Honolulu. in the Republic of Hawaii, and a point at or near San Francisco, Cal.; and between the said city of Honolulu and the islands of Hawaii, Maui, Molokai, and Kauai.

SEC. 2. Time and place of payment of subsidy.—Such subsidy shall be paid to the contractor, his representatives or assigns, at the treasury of the Government in said Honolulu, by the minister of finance of the Government, or his successor in office, in equal quarterly installments of \$10,000 each, during each and all of the

years of said above-mentioned term of twenty years.

Subject, however, to suspension or cancellation upon the terms and conditions

hereinafter set forth.

SEC. 3. Grant conditioned upon beginning and completion of cable upon specified dates, and performance of other agreements.—Provided, however, and this agree-

ment is upon these further express conditions, viz:

(a) That the contractor and his representatives and assigns shall not be entitled to such exclusive franchise, nor to the payment of such subsidy, nor any part thereof, unless the construction of such cables shall begin on or before the 1st day of May, A. D. 1897, and such telegraphic communication be established not later than the 1st day of November, A. D. 1898.

(b) And further, that the Government of the United States shall join in this undertaking by the grant of substantial assistance to the contractor, his repre-

sentatives or assigns.

And provided further, That upon the failure to obtain the assistance of the United States Government, as herein specified, or upon the breach by or failure of the contractor, his representatives or assigns, to perform or observe all or any of the terms, agreements, or conditions herein contained, the party of the first part or his successors in office may cancel and terminate this agreement, and all obligations on the part of the Government thereunder, by notifying the contractor, his representatives or assigns, of such cancellation and termination, by delivering a written notice thereof at the house of Bishop & Co., in said Honolulu, not less than sixty days before such cancellation and termination shall take place.

than sixty days before such cancellation and termination shall take place.

But the rights and privileges of the contractor and his representatives and assigns under this agreement shall not be terminated by his or their failure to begin the construction of the cable herein provided for, and establish communication thereon as herein provided for, upon the dates herein specified, or upon or by reason of any other breach of any condition, or any failure to keep or observe any covenant or agreement herein contained on the part of the contractor, or his representatives or assigns, to be kept or performed, unless and until the Government shall in writing notify him or them that it has canceled this agreement by reason of such breach or failure, by delivering such written notice at the said house of Bishop & Co. not less than sixty days before the date upon which such termina-

tion and cancellation are to take effect.

SEC. 4. Suspension of subsidy during temporary failure of cable.—(c) And further that in case of a failure or interruption of efficient electrical connection and communicating power over the said cable or cables between the points hereinafter specified, or any of them, for a period of more than ninety consecutive days, from any cause other than governmental restraint or illegal obstruction, the Government shall not be bound to pay the said subsidy in full, but may deduct therefrom a proportionate amount for the period of such interruption, as follows: For the time of failure or interruption of such communication between San Francisco and the Hawaiian Islands beyond said term of ninety consecutive days, at the rate of \$30,000 per annum; for the time of failure or interruption of such communication between the said islands, or any of them, beyond said term of ninety consecutive days, at the rate of \$10,000 per annum.

SEC. 5. Cancellation of contract in case of failure for one year.—And provided further, That if the said line or lines, or either of them, shall fail to furnish such communication for a period exceeding one year beyond such term of ninety consecutive days, then and in such case the Government may, at its option, cancel this contract as far as it refers to the line or system so interrupted, and it shall thereupon be freed from all obligations to pay any further subsidy on account of

the line or system so interrupted.

That is to say, if the line upon which such communication is so interrupted shall be a part of the interisland cable system it shall be relieved from the obligation to pay \$10,000 per annum of said subsidy.

And if the interruption of such communication for such period be on the line between San Francisco and Honolulu, it shall be relieved from the obligation to pay \$30,000 per annum of such subsidy, and the grant of an exclusive franchise to lay and maintain a cable to or from the North American Continent to the Hawaiian group, and of all other rights and privileges referring or relating to such line or system herein contained shall thereupon and thereby become and be null and void.

ARTICLE III.—Other privileges.

Section 1. Rights of way and building sites.—And the Government doth hereby further grant to the contractor, his representatives and assigns, for the said term of twenty years, the free use of a right of way across all Government lands for the landing of any such cable or cables, or the construction of any land lines connecting the same, and of suitable sites on any Government lands which may be approved by the Government, for the construction of stations and storehouses for the maintenance or operation of the cable or cables, and doth covenant with the contractor, his representatives and assigns, that during the period of twenty years from the date of the establishment by the contractor, his representatives or assigns, of telegraphic communication between the said city of Honolulu and the other points herein specified, the contractor, his representatives and assigns, shall continue to have the free use of such rights of way and sites.

SEC. 2. Exemption from duties.—And also that during the said term of twenty years there shall be admitted into the Republic, free of all duties, all material to be used exclusively in the construction, maintenance, or operation of any such

cable or cables.

SEC. 3. Exemption from taxes.—And also that for the said term of twenty years no taxes shall be levied upon the property of the contractor, his representatives or assigns, located in the Republic, belonging to or connected with such cable or cables, and necessary or properly appurtenant to the construction, maintenance, or operation of such cable or cables.

Sec. 4. Exemption from port charges.—And also that during such term of twenty years no harbor or port dues or charges, except pilotage, shall be levied upon or collected from any vessel or vessels exclusively engaged in laying or maintaining any such cable or cables, or which may be stationed in the waters of the Republic

for such purposes.

SEC. 5. Grant of power of eminent domain.—And also that during such term of twenty years the contractor, his representatives and assigns, shall have the power and privilege to condemn and appropriate, according to law, such property or rights of way as may be necessary for the construction, maintenance, or operation of such cable or cables and the land connections thereof.

AGREEMENTS OF THE CONTRACTOR.

ARTICLE IV .- Location and equipment of lines.

Section 1. Specification of location of lines.—In consideration of the several grants and covenants of the Government hereinbefore contained, the contractor, for himself and his representatives and assigns, doth hereby covenant to and agree with the said party of the first part, and his successors in office, that he, the said contractor, his representatives or assigns, will, on or before the 1st day of May, A. D. 1897, begin to construct the cables necessary to connect the several points herein specified, and that he, the said contractor, his representatives or assigns, will, on or before the 1st day of November, A. D. 1898, construct, complete, lay, equip, and establish in efficient working condition cables as follows:

From a point on the west coast of California, at or near the city of San Fran-

cisco, to a point at or near the said city of Honolulu.

And also from the island of Hawaii, at or near Kawaihae, to the island of Maui, at or near Nuu.

And also from the island of Maui, at or near Napili, to the island of Molokai, at

or near Pukoo.

And also from the island of Molokai, at or near its west point, to the island of

Oahu, at or near Waikiki.

And also from the island of Oahu, at or near Waianea, to the island of Kauai, at or near Nawiliwili.

And also will construct all necessary stations and connections, so as to make

such cable and cables available for communication to and from each of such islands.

The landing places at the several termini mentioned shall be at such points on the said respective shores as shall be determined by the engineer in charge of the work.

SEC. 2. Interisland land lines.—And the contractor doth further covenant with the Government that he, his representatives or assigns, will, on or before the said 1st day of November. A. D. 1898, construct and equip and connect with such cable and cables all necessary land lines and stations on each of the said enumerated islands, so that efficient telegraphic communication may be maintained between Honolulu and a point at or near said San Francisco, and between Honolulu and each of the said islands, and between each of said islands and any other of said islands.

SEC. 3. Maintenance of lines.—And further, that after such calles and land lines are so constructed, laid, and placed in operation the said cables and land lines, and each and every one of them, shall be, during the term of twenty years thereafter, continuously and fully equipped, operated, and maintained, so that the same shall and will constitute and form reliable means of telegraphic communications.

tion between the points enumerated.

S.c. 4. Proviso for delay in certain cases.—Provided, however, That if any delay in constructing, laying, and completing the said cable or cables shall be caused or arise from any strike, lockout, or other combination preventing the contractor's works, or any of the trades or occupations upon which the contractor, his representatives or assigns, or manufacturers of cable from which he is or they are obtaining the cable, shall be dependent in carrying out any contract or work ne essary to the proper fulfillment of the contract, or shall be caused by any restraints or obstructions occasioned by any governmental authority, or otherwise than by the default of said contractor, his representatives or assigns, then or in any such case the time for completing such cable or cables shall be extended for such period or periods as shall be certified to be reasonable by a competent electrical engineer, who shall be approved by the Government.

trical engineer, who shall be approved by the Government.

SEC. 5. Exemption of contractor from liability under certain conditions.—And provided further. That the contractor, his representatives or assigns, shall not be responsible in damages to the Government for any delay or failure in manufacturing or laying the said cable or cables, except such as may be caused by the culpable neglect of the contractor, his representatives, agents, or assigns, in carrying out the terms of this agreement, the true intent and meaning of this agreement being that the contractor, his representatives and assigns, shall take all reasonable precautions and use their best endeavors to construct, lay, and operate the said cable or cables between the said respective points within the time specified, but that he and they shall not be responsible in damages if he and they shall bona

fide use his or their best efforts to accomplish such object.

ARTICLE V.—Ownership of interisland lines.

Section 1. Government option to assume ownership of interisland lines.—And the contractor, for himself and his representatives and assigns doth hereby turther covenant with the Government that, if so requested in writing by the Government within one year after the said interisland cable system is completed, he, the contractor, or his representatives or assigns, shall and will sell, transfer, and convey to the Government all of the said interisland cable and cables, and the equipment, stations, and appurtenances, po'es and land lines, and everything thereunto appertaining, charging and receiving therefor only the actual cash cost of the said land lines, stations, and equipments, and making no charge for the construction, laying, or furnishing of such submarine cables.

SEC. 2. Government title to interisland cables to be free from all liens.—If the Government shall so acquire such interisland cable system it shall acquire and hold it free from any obligation to pay any indebtedness or any bond or bonds or interest thereon, or any part thereof, which may have been incurred, created, or executed in upon, or concerning the same and free from any and every other debt, obliga-

tion, and lien of any kind whatever.

But nothing herein contained shall be so construed that such acquiring of such inter sland cable system shall release the Government from the obligation of con-

tinuing to pay the full amount of the subsidy hereinbefore granted.

SEC. 3. Government acquisition of interisland cable to release contractor from responsibility therefor.—If the said interisland cable system shall be so acquired by the Government, the maintenance and operation, and all costs, charges, and expenses of maintaining and operating such interisland cable so conveyed shall, from the date of such conveyance, be conducted, borne, and sustained by the Government; and the contractor, his representatives and assigns, shall, from and after such date, be relieved from all responsibility and expense for or concerning such system, and no interruption or failure of communication occurring in such interisland cable system after the same shall have been so acquired by the Government shall work or be made the cause, directly or indirectly, of the suspension or forfeiture of the subsidy hereby granted, or any part thereof, or be made a ground for the forfeiture of this agreement or any privilege thereby granted.

ARTICLE VI.—Use of cable ship.

And the contractor, for himself and his representatives and assigns, doth further covenant with the Government: That if the said interisland cable shall be so conveyed to the Government, the contractor, his representatives and assigns, will at all times allow the cable-repairing ship owned by or controlled by him or them to be used by the Government in the repair or replacing of any of the cables in such interisland system, charging therefor only the actual (ash outlay of the contractor, his representatives or assigns, in making such repairs or replacement.

ARTICLE VII.—Specifications of size, weight, materials, and efficiency of cables.

And the contractor doth hereby further covenant with the Government that the manufacture, size, and weight of the material used in and the method of storing and laying the said cable and cables shall be in accordance with the several specifications hereunto annexed, and made a part of this agreement.

And further, that all of such cable or cables so to be constructed, laid, equipped, operated, and maintained, and all instruments and appliances shall and will be manufactured and constructed throughout in a good and workmanlike manner

and of the best materials.

And further, that each and every of the said sections of cable shall, during the said term of twenty years, be continuously, except as herein provided, capable of efficiently transmitting not less than fifteen words per minute between the several

points herein specified.

And further, that during the said term of twenty years efficient operators shall be maintained at each of the stations on said lines, who shall and will transmit over said cable lines all messages at such stations received for transmission at such rate of speed for the rates of tariff herein provided for.

ARTICLE VIII.—Schedule of rates.

Section 1. Interisland rates.—And the contractor, for himself and his representatives and assigns, doth hereby further covenant with the Government that during the continuance of the terms of this agreement the maximum charge for messages transmitted over the said interisland cable system, from the point of receiving such messages to its point of destination, shall not exceed the following prescribed limit, viz, not to exceed 10 cents for each word so transmitted.

Provided, however, That it shall not be obligatory upon the contractor, his rep-

resentatives or assigns, to send any message for less than \$1.

SEC. 2. Foreign rates.—And further, that during such period the maximum rates for the transmission of any message, other than Government messages, to or from the Hawaiian Islands over such cable between Honolulu and San Francisco, shall be such as shall be agreed upon in any contract which shall be made between the contractor, his representatives or assigns, and the United States Government, not exceeding \$1 per word, and any contract with such Government shall prescribe a maximum scale of rates.

And further, that if telegraphic communications shall be hereafter established between the Hawaiian Islands and Australasia or Japan the rate to be charged for any message transmitted from Honolulu to San Francisco, or from San Francisco to Honolulu, shall not exceed a pro rata proportion, based on distance, of the regular rate for transmitting a similar message to or from San Francisco and Austral-

asia or Japan.

And further, that messages from Honolulu to points beyond San Francisco shall not be charged higher rates beyond San Francisco than the rates which the con-

tractor may be charged for the transmission of the same.

Sec. 3. Press rates,—And furthur, that the rates for ordinary messages or items of news to any newspaper or news bureau of the Republic of Hawaii (commonly known as press messages) shall not exceed one half the rate which shall be charged for other messages, excepting messages to or from the Hawaiian Government, or any officer thereof in his official capacity, or to or from any foreign government. Provided, however, That it shall not be obligatory upon the contractor, his rep-

resentatives or assigns, to send any press message for less than \$1.

SEC. 4. Hawaiian Government rates.—And further, that during the said term of twenty years all messages concerning the official business of the Hawaiian Government, to or from the Hawaiian Government or any of its officials, transmitted over said interisland system of cables, or over the said cable from Honolulu to San Francisco, shall be transmitted free up to the amount of the annual subsidy paid by the Government to the contractor, his representatives or assigns, reckoning the charge and scale of rates for such Government messages at the rate herein prescribed or provided for ordinary messages.

ARTICLE IX .- Seer rity for accution of contract.

Section 1. Deposit of bonds with minister of finance.—And the contractor, for himself and his representatives and assigns, doth hereby further covenant with the Government that he will, upon the execution of this agreement, deposit with the minister of finance of the Republic of Hawaii, Hawaiian Covernment Londs to the amount of \$2.000 as security that he and his representatives and assigns will construct, lay, and equip the said cables and land lines in accordance with the terms and conditions of this agreement.

Upon the completion of the construction, equipment, and laying of said systems of cable and land lines in the manner herein provided for the obligation and obligations secured by such bonds shall be deemed to have been fulfilled and performed, and such bonds shall thereupon be returned to the contractor, his representatives

or assigns.

But if after the beginning of the construction of said cables, in manner herein specified, there shall be any failure to complete the construction, laying, and equipment of such systems and such land lines within the time herein specified, then and in such case such bonds shall be forfeited to the Hawaiian Government as liquidated damages, and there shall be no further or other claim by way of damages by the Government against the contractor, his representatives or assigns.

SEC. 2. Contractor may cancel this contract within a specified time.—Provided, however, That the contractor, his representatives or assigns, may at any time prior to the 1st day of May, A. D. 1897, notify the Government of his or their desire to cancel this contract, whereupon this contract shall become null and void, and such bonds so deposited as security shall thereupon be forthwith returned to the contractor, his representatives or assigns.

ARTICLE X.—Definition of "beginning of construction."

It is hereby mutually agreed that the beginning of the construction of the cables specified in section 1 of Article IV of this agreement shall be construed to mean, and shall mean, the completion and execution of a contract between the contractor and a responsible cable construction company or compan es for the construction and laying of such cable and cables within the period limited by the terms of this contract, and the actual beginning of the work of construction under such contract with such construction company or companies, and a written notice to the Government by the contractor, his representatives or assigns, accompanied by proofs of the execution of such contract.

ARTICLE XI.—Centract binding on and in favor of representatives, assigns, etc.

It is hereby mutually agreed by and between the parties hereto, on behalf of themselves and their respective successors, representatives, and assigns that all terms and conditions herein contained upon the part of the Government to be observed, kept, or performed, shall be equally binding and obligatory as well upon the Hawaiian Government and the said party of the first part and his successors; and that all of the agreements and covenants herein contained upon the part of the contractor to be kept or observed or performed, are and shall be as well in favor of and enforceable by the Hawaiian Government and the party of the first part as his successors in office.

And further, that all of the terms and conditions and covenants herein contained upon the part of the contractor to be observed. kept, or performed shall be equally binding and obligatory upon the said party of the second part as upon his representatives and assigns: and that all of the agreements and covenants herein contained on the part of the Government, or of said party of the first part, or his successors, to be kept, observed, or performed, are, and shall be, as well in favor of and enforceable by the party of the second part as his representatives and assigns.

[Specifications of cables hereinbefore referred to. Proposed telegraph cable from San Francisco to Honolulu and Hawaiian interisland cables.]

SAN FRANCISCO-HONOLULU CABLE.

The landing place near San Francisco may be at Monterey Bay, and the landing place near Honoluiu at Waikiki.

Lengths of cable required.	Nautical miles.
Shore end (type A) Intermediate No. 1 (type E) Intermediate No. 2 (type B)	3
Deep sea (type D)	2,444
Total	2,500

SPECIFICATION.

Core.

(a) Conductor.—The conductor to be a strand of copper wires weighing 400 pounds per nautical mile, or within 5 per cent thereof, and the resistance at 75° Fahrenheit shall not be more than 3,117 ohms.

(b) Insulator,—The conductor is to be insulated with three coatings of guttapercha of improved inductive capacity, prepared according to Mr. Willoughby Smith's system, alternating with three coatings of Chatterton's compound, and to weigh 300 pounds per knot, or within 5 per cent thereof. The resistance of the completed core to be not less than 50 megohins per nautical mile after one minute's electrification, when tested at a temperature of 75° Fahrenheit, after twentyfour hours' immersion in water, fourteen days after manufacture, and the average inductive capacity per nautical mile throughout the entire length is not to exceed

(c) Sheathing.—The core of types A, E, and B to be covered with Clifford's pat-

ent sheathing for protection against the ravages of insects

(d) Serving.—The core of all the types to be served with a good and sufficient serving of jute yarn, steeped in cutch or other preservative mixture, and applied

Outer coverings-Shore end.

(e) Outer coverings—Type A.—Type B to be served with tarred jute yarn, and again closed with 14 galvanized BB iron wires, No. 1 B. W. G., equal to three hundred one-thousandths of an inch when galvanized, or within 2½ per cent thereof.

Intermediate, No. 1.

(f) Type E.—The served core to be covered with 12 galvanized BB iron wires, No. 4 B. W. G., equal to two hun led and thirty-eight one-thousandths of an inch when galvanized, or within 21 per cent thereof.

Intermediate, No. 2.

(g) Type B.—The served core to be covered with 12 galvanized BB iron wires. No. 6 B. W. G., equal to two hundred one thousandths of an inch when galvanized, or within 2½ per cent thereof.

Deep sea.

(h) Type D.—The served core to be covered with 17 galvanized steel wires, each wire being tapped and compounded. The steel wires to be No. 14 B. W. G., equal to eighty-three one-thousandths of an inch when galvanized, or within $2\frac{1}{2}$ per cent thereof, and to bear a breaking strain of not less than 85 tons per square inch, with an elongation of not less than 4 per cent.

(i) Before being used for the sheathing of types A, E, and B, the galvanized iron wire is to be heated in a kiln or oven just sufficiently to drive off all moisture, and

while warm is to be dipped into a hot compound or black varnish.

Outside serving.

(j) Types A and E, manufactured as above, to be covered with two servings of jute yarn laid on spirally in opposite directions, alternately with two coatings of

Clark's compound.

(k) Types B and D, manufactured as above, to be covered with two of Johnson & Phillips's patent tapes, laid on spirally in opposite directions, alternately with 2

coatings of Clark's compound.

HAWAIIAN INTERISLAND CABLES.

Lengths of cable required.	Nautical m	iles.
Shore end (Type A) Intermediate (Type B ¹)		10 25
Deep sea (Type D)		
Total	-	177

SPECIFICATION.

Core.

(a) Conductor.—The conductor to be a strand of copper wires weighing 100 pounds per nautical mile, or within 5 per cent thereof, and the resistance at 75 F.

shall not be more than 12.22 ohms.

(b) Insulator. - The conductor is to be insulated with three coatings of guttapercha of improved inductive capacity, prepared according to Mr. Willoughby Smith's system, alternating with three coats of Chatterton's compound, and to weigh 100 pounds per nautical mile, or within 5 per cent thereof. The resistance of the completed core is to be not less than 150 m. goinns per nautical mile after one minute's electrification, when tested at a temperature of 75 Fahrenheit, after twenty-four hours' immersion in water, fourteen days after manufacture.

(c) Sheathing.—The core of Types A and B to be covered with Clifford's patent

sheathing for protection against the ravages of insects.

(d) Serving.—The core to be covered with a good and sufficient serving of jute garn, steeped in cutch or other preservative mixture, to be applied wet.

Outer coverings-Shore end.

(e) Outer coverings.—Type A.—Type B¹ to be served with tarred jute yarn, and again closed with twelve galvanized BB iron wires, No. 1 B. W. G., equal to three hundred one-thousandths of an inch when galvanized, or within 21 per cent thereof.

Intermediate.

(f) Type B1.—The served core to be covered with twelve galvanized BB iron wires, No. 9 B. W. G., equal to one hundred and forty-eight one-thousandths of an inch when galvanized, or within 21 per cent thereof.

Deep sea.

(g) Type D.—The served core to be covered with fifteen galvanized homogeneous iron wires. The homogeneous wires to be No. 13 B. W. G., equal to ninety-nine one-thousandths of an inch when galvanized, or within 21 per cent thereof, and to bear a breaking strain of not less than 52 tons per square inch with an elongation of not less than 3 per cent.

(h) Dinping.—Before being used for the sheathing the galvanized iron wire is be heated in a kiln or oven just sufficiently to drive off all moisture, and while warm is to be dipped into a hot compound or black varnish.

Outside serving.

(i) Outside serving. - Type A to be covered with two servings of jute yarn laid

on spirally in opposite directions and two coatings of Clark's compound.

(j) Types B and D to be covered with two Johnson & Phillips's patent tapes laid on spirally in opposite directions, alternately with two coatings of Clark's compound.

GENERAL CLAUSES.

(k) Cable to be kept under water.—The cable, when completed, to be coiled in suitable water-tight tanks, and kept, as far as practicable constantly under water.

(1) Tanks on board ship. The completed calle to be coiled on board ship in water-tight tanks, and kept, as far as practicable, under water until submerged.

(m) Final electrical condition of cable.—The electrical condition of the cable when laid to be such as, having regard to its previous condition, and making does allowance for the mean actual temperature of the water, as shown by the resistance of the conductor, to give no good grounds for believing that any fault exists in the

insulator or conductor.

In witness whereof the said Sanford Ballard Dole, President of the Republic of Hawaii, hath hereunto set his hand and caused the great seal of the Republic of Hawaii to be hereunto attached; and Francis M. Hatch, minister of foreign affairs; Samuel M. Damon, minister of finance; Jam s. A. King, minister of interior, and William O. Smith, attorney-general, constituting the cabinet of the Republic of Hawaii, in token of their consent to and approval of this agreement, and the said Zephaniah Swift Spalding have hereunto set their hands and seals the day and year first above written.

Done in triplicate.

[SEAL.]

SANFORD B. DOLE. FRANCIS M. HATCH,

Minister of Foreign Affairs.
J. A. King, Minister of the Interior.
S. M. Damon, Minister of Finance,
WILLIAM O. SMITH, Attorney-General.
ZEPHANIAH SWIFT SPALDING.

We, William C. Wilder, president of the senate of the Republic of Hawaii, and J. F. Clay, secretary of the senate of the Republic of Hawaii, do hereby certify that the foregoing agreement between Sanford Ballard Dole, President of the Republic of Hawaii, and Zephaniah Swift Spalding was submitted by the President to the said senate on the 12th day of August, A. D. 1895, and was ratified. approved, and confirmed by the said senate on the 13th day of August, A. D. 1895.

W. C. WILDER,
President of the Senate of the Republic of Hawaii.
J. F. CLAY,

Secretary of the Senate of the Republic of Hawaii.

HONOLULU, August 14, 1895.

We, D. L. Naone, speaker, and James N. K. Keola, clerk of the house of representatives of the Republic of Hawaii, do hereby certify that the foregoing agreement between Sanford Ballard Dole, President of the Republic of Hawaii, and Zephaniah Swift Spalding was submitted by the President to the said house of representatives on the 12th day of August, A. D. 1895, and was ratified, approved, and confirmed by the said house of representatives on the 13th day of August, A. D. 1895.

D. L. NAONE,
Speaker of the House of Representatives of the Republic of Hawaii.
JAS. N. K. KEOLA,
Clerk of the House of Representatives of the Republic of Hawaii.

Honolulu, August 14, A. D. 1895.

FIFTY-SIXTH CONGRESS, FIRST SESSION.

February 23, 1900.

[Senate Report No. 461.]

Mr. Clark, of Wyoming, from the Committee on Foreign Relations,

submitted the following report:

The Committee on Foreign Relations, to whom was referred the joint resolution (S. R. 71) authorizing the President of the United States to invite the Government of Great Britain to join in the formation of an international commission to examine and report upon the diversion of the waters that are the boundaries of the two countries, make the following report:

It appears from the papers before your committee, comprising copies of correspondence passing between the president of the com-

missioners of the New York State Reservation at Niagara and the Secretary of State, and between the governor of the State of New York and the Secretary of State, that by reason of the diversion of the waters of the lakes through the Welland Canal, and the proposed diversion of waters in great volume, to be taken under grants for the construction of the Chicago Drainage Canal, the proposed canal from Georgian Lake to the Ottawa River, and other projected waterways, together with like diversions of waters in very considerable quantities from the Niagara River above the Falls of Niagara for the generation of mechanical power, under grants from the State of New York and the Province of Ontario, the water levels of the several lakes forming a portion of the boundary between the United States and Canada are reduced, and will be in future under like grants greatly diminished, so as to constitute a serious menace to navigation on these waters: and by reason of the diminution in the volume of the water of the Niagara River contributing to the destruction of the natural grandeur of the Falls of Niagara.

It further appears to your committee that the question of diversion of waters forming a boundary between nations is a proper subject for joint consideration by representatives of the nations having riparian

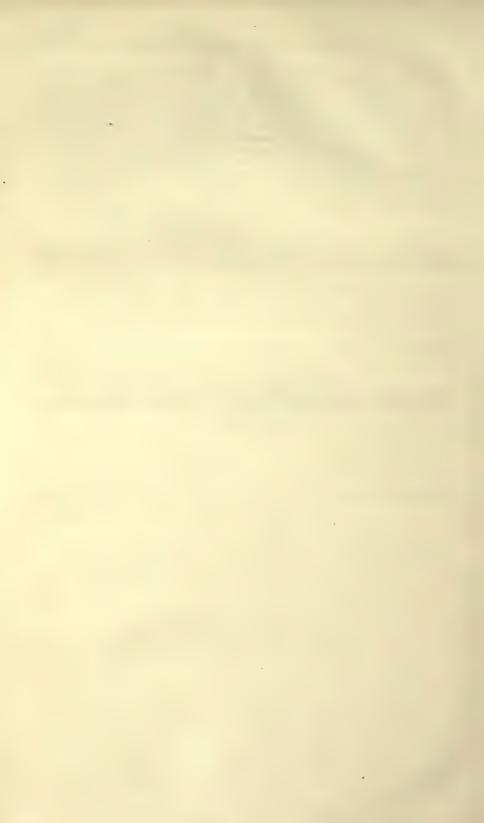
rights therein.

It further appears to your committee that the sum of \$20,000, proposed to be appropriated by the resolution under consideration, is a reasonable sum for the expenses of the commissioners for the United States in the prosecution of the proposed investigation.

In view of the foregoing your committee approve of the spirit and purpose of the resolution (S. R. 71) and recommend that the same do

pass.

TRADE AND COMMERCE WITH FOREIGN NATIONS.



TRADE AND COMMERCE WITH FOREIGN NATIONS.

FIRST CONGRESS, FIRST SESSION.

August 5, 1789.

With reference to arranging and bringing forward a system to regulate the trade and intercourse between the United States and the territory of other powers in North America and the West Indies, Mr.

Butler reported as follows:

That it will be expedient to pass a law for imposing an increased duty of tonnage, for a limited time, on all foreign ships and other vessels that shall load in the United States, with the produce of the same, to any port or place in America whereto the vessels of the United Stated are not permitted to carry their own produce; but such a law being of the nature of a revenue law, your committee conceive that the originating a bill for that purpose is by the Constitution exclusively placed in the House of Representative.

Your committee beg leave further to report as their opinion that it will be expedient to direct a bill to be brought in for imposing similar restraints upon the trade of the European settlements in America with the United States that are imposed on the trade of the United States

with those settlements.

FIRST CONGRESS, SECOND SESSION.

May 25, 1790.

On providing the means of intercourse between the United States and foreign nations, Mr. Strong reported an amended bill, which became a law by the approval of the President on July 1, 1790. It is as follows:

SEC. 1. Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the President of the United States shall be, and he hereby is, authorized to draw from the Treasury of the United States a sum not exceeding forty thousand dollars annually, to be paid out of the monies arising from the duties on imports and tonnage, for the support of such persons as he shall commission to serve the United States in foreign parts, and for the expense incident to the business in which they may be employed: Provided, That, exclusive of an outfit, which shall in no case exceed the amount of one year's full salary to the minister plenipotentiary or chargé des affaires to whom the same may be allowed, the President shall not allow to any minister plenipotentiary a greater sum than at the rate of nine thousand dollars per annum, as a compensation for all his personal services and other expenses;

nor a greater sum for the same than four thousand five hundred don lars per annum to a chargé des affaires; nor a greater sum for the same than one thousand three hundred and fifty dollars per annum to the secretary of any minister plenipotentiary; And provided also, That the President shall account specially for all such expenditures of the said money as in his judgment may be made public, and also for the amount of such expenditures as he may think it advisable not to specify, and cause a regular statement and account thereof to be laid before Congress annually, and also lodged in the proper office of the Treasury Department.

SEC. 2. And be it further enacted, That this act shall continue and be in force for the space of two years, and from thence until the end

of the next session of Congress thereafter, and no longer.

(Stat. L., Vol. I, p. 128; Leg. Jour., Vol. I, p. 173.)

FIRST CONGRESS, THIRD SESSION.

January 26, 1791.

Concerning consuls and vice-consuls of the United States in foreign parts, Mr. Ellsworth reported as follows:

A BILL for carrying into full effect the convention between the King of the French and the United States of America, entered into for the purpose of defining and establishing the functions and privileges of their respective consuls and vice-consuls.

Section 1. Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That where in the seventh article of the said convention it is agreed that when there shall be no consul or vice-consul of the King of the French to attend to the saving of the wreck of any French vessels stranded on the coasts of the United States, or that the residence of the said consul or vice-consul (he not being at the place of the wreck) shall be more distant from the said place than that of the competent judge of the country, the latter shall immediately proceed to perform the office therein prescribed; the district judge of the United States of the district in which the wreck shall happen shall proceed therein, according to the tenor of said article. And in such cases it shall be the duty of the officers of the customs within whose districts such wrecks shall happen to give notice thereof as soon as may be to the said judge, and to aid and to assist him to perform the duties hereby assigned to him. The district judges of the United States shall also within their respective districts be the competent judges for the purposes expressed in the ninth article of the said convention, and it shall be incumbent on them to give aid to the consuls and vice-consuls of the King of the French in arresting and securing deserters from the vessels of the French nation, according to the tenor of the said article.

And where by any article of the said convention the consuls and vice-consuls of the King of the French are entitled to the aid of the competent executive officers of the country in the execution of any precept, the marshals of the United States and their deputies shall within their respective districts be the competent officers, and shall give their aid according to the tenor of the stipulations.

And whenever commitments to the jails of the country shall become necessary in pursuance of any stipulation of the said convention, they

shall be to such jails within the respective districts as other commitments under the authority of the United States are by law made.

And for the direction of the consuls and vice-consuls of the United

States in certain cases.

SEC. 2. Be it enacted by the authority of the aforesaid, That they shall have right, in the ports or places to which they are or may be severally appointed, of receiving the protests or declarations which such captains, masters, crews, passengers, and merchants as are citizens of the United States and may respectively choose to make there, and also such as any foreigner may choose to make before them relative to the personal interest of any citizens of the United States; and the copies of the said acts duly authenticated by the said consuls or vice-consuls, under the seal of their consulates, respectively, shall receive faith in law, equally as their originals would in the courts of the United States. It shall be their duty, where the laws of the country permit, to take possession of the personal estate left by any citizen of the United States other than seamen belonging to any ship or vessel who shall die within their consulate, leaving there no legal representative, partner in trade, or trustee by him appointed, to take care of his effects; they shall inventory the same with the assistance of two merchants of the United States, or, for want of them, of any others of their choice; shall collect the debts due to the deceased in the country where he died, and pay the debts due from his estate which he shall have there contracted; shall sell at auction after reasonable public notice such part of the estate as shall be of a perishable nature, and such further part, if any, as shall be necessary for the payment of his debts, and at the expiration of one year from his decease the residue; and the balance of the estate they shall transmit to the Treasury of the United States, to be holden in trust for the legal claim-But if at any time before such transmission the legal representative of the deceased shall appear and demand his effects in their hands, they shall deliver them up, being paid their fees, and shall cease their proceedings.

For the information of the representative of the deceased, it shall be the duty of the consul or vice-consul authorized to proceed as aforesaid in the settlement of his estate immediately to notify his death in one of the gazettes published in the consulate, and also to the Secretary of State, that the same may be notified in the State to which the deceased shall belong; and he shall also, as soon as may be, transmit to the Secretary of State an inventory of the effects of the deceased

taken as before directed.

SEC. 3. And be it further enacted, That the said consuls and vice-consuls, in cases where ships or vessels of the United States shall be stranded on the coasts of their consulates, respectively, shall, as far as the laws of the country will permit, take proper measures, as well for the purpose of saving the said ships or vessels, their cargoes and appurtenances, as for storing and securing the effects and merchandise saved, and for taking an inventory or inventories thereof; and the merchandise and effects saved, with the inventory or inventories thereof taken as aforesaid, shall, after deducting therefrom the expense, be delivered to the owner or owners: Provided, That no consul or vice-consul shall have authority to take possession of any such goods, wares, merchandise, or other property when the master, owner, or consignee thereof is present or capable of taking possession of the same.

SEC. 4. And be it further enacted, That it shall and may be lawful for every consul and vice-consul of the United States to take and

receive the following fees of office for the services which he shall

have performed:

For authenticating, under the consular seal, every protest, declaration, deposition, or other act which such captains, masters, mariners, seamen, passengers, merchants, or others as are citizens of the United States may respectively choose to make, the sum of two dollars.

For the taking into possession, inventorying, selling, and finally settling and paying or transmitting as aforesaid the balance due on the personal estate left by any citizen of the United States who shall die within the limits of his consulate, five per centum on the gross amount of such estate.

For taking into possession and otherwise proceeding on any such estate which shall be delivered over to the legal representative before a final settlement of the same, as is hereinbefore directed, two and a half per centum on such part delivered over as shall not be in money and five per centum on the gross amount of the residue.

And it shall be the duty of the consuls and vice-consuls of the United States to give receipts for all fees which they shall receive by virtue of this act, expressing the particular services for which they

are paid.

SEC. 5. And be it further enacted, That in case it be found necessary for the interest of the United States that a consul or consuls be appointed to reside on the coast of Barbary, the President be authorized to allow an annual salary, not exceeding two thousand dollars, to each person so to be appointed: Provided, That such salary be not allowed to more than one consul for any one of the States on the said coast.

SEC. 6. And be it further enacted, That every consul and vice-consul shall, before they enter into the execution of their trusts, or, if already in the execution of the same, within one year from the passage of this act, or if resident in Asia within two years, give bond with such sureties as shall be approved by the Secretary of State in a sum of not less than two thousand or more than ten thousand dollars, conditioned for the true and faithful discharge of the duties of his office according to law, and also for truly accounting for all moneys, goods, and effects which may act; and the said bond shall be lodged in the office of the

Secretary of the Treasury.

SEC. 7. And be it further enacted, That to prevent the mariners and seamen employed in vessels belonging to citizens of the United States, in cases of shipwreek, sickness, or captivity, from suffering in foreign ports, it shall be the duty of the consuls and vice-consuls, respectively, from time to time to provide for them in the most reasonable manner, at the expense of the United States, subject to such instructions as the Secretary of State shall give, and not exceeding an allowance of twelve cents to a man per diem; and all masters and commanders of vessels belonging to citizens of the United States, and bound to some port of the same, are hereby required and enjoined to take such mariners or seamen on board of their ships or vessels, at the request of the said consuls or vice-consuls, respectively, and to transport them to the port in the United States to which such ships or vessels may be bound, free of costs or charge; but that the said mariners or seamen shall, if able, be bound to do duty on board such ships or vessels, according to their several abilities: Provided, That no master or captain of any ship or vessel shall be obliged to take a greater number than two men to every one hundred tons burthen of the said ship or vessel, on any one voyage; and if any such captain or master shall refuse the same on the request or order of the consul or vice-consul, such captain or master shall forfeit and pay the sum of thirty dollars for each mariner or seaman so refused, to be recovered for the benefit of the United States by the said consul or vice-consul

in his own name, in any court of competent jurisdiction.

SEC. 8. And be it further enacted, That where a ship or vessel belonging to citizens of the United States is sold in a foreign port or place, the master, unless the crew are liable by their contract or do consent to be discharged there, shall send them back to the State where they entered on board, or furnish them with means sufficient for their return, to be ascertained by the consul or vice-consul of the United States having jurisdiction of the port or place. And in case of the master's refusal, the said consul or vice-consul may (if the laws of the land permit it) cause his ship, goods, and person to be arrested until he shall comply with his duty herein.

SEC. 9. And be it further enacted, That the specification of certain powers and duties, in this act, to be exercised or performed by the consuls and vice-consuls of the United States shall not be construed to the exclusion of others resulting from the nature of their appoint-

(Leg. Jour., vol. 1, pp. 189, 194, 231, 232; Stat. L., vol. 1, p. 254.)

ments or any treaty or convention under which they may act.

THIRD CONGRESS. FIRST SESSION.

March 3, 1794.

Concerning the remission of the duties arising on the tonnage of sundry French vessels which have taken refuge in the ports of the

United States, Mr. Cabot reported as follows:

Whereas the disastrous situation of the town of Cape Francois, in the island of Hispaniola, compelling sundry vessels belonging to citizens of the French Republic, in the month of June last, to take refuge within the ports of the United States; and whereas they are liable by law to the payment of foreign tonnage which, considering the necessity of their case, ought equitably to be remitted to them: Therefore,

Be it enacted by the Senate and the House of Representatives of the United States of America in Congress assembled, That the duties on the tonnage to which any of the vessels aforesaid are or may have been liable, within any of the ports of the United States, be and are hereby remitted: Provided, nevertheless, That the master, owner, or consignee of every such vessel shall make proof to the proper officer of the port in which such vessel may be that the said vessel was compelled to leave the said island of Hispaniola and to take refuge within the said port by reason of the calamity aforesaid.

(Leg. Jour., vol. 2, p. 34; Stat. L., vol. 1, p. 342.)

May 8, 1794.

Concerning release of a portion of the trade of the United States

from embargo, Mr Butler reported as follows:

That, in the opinion of your committee, it is not advisable to grant any partial enlargements or permissions for the departure of vessels now embargoed.

(Leg. Jour., vol. 2, p. 75.)

FIFTH CONGRESS, SECOND SESSION.

July 14, 1798.

On the suspension of commercial intercourse between the United States and France and dependencies thereof, Mr. Bingham reported

the following bill:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the provision for giving bond and finding sufficient surety or sureties for vessels bound on foreign voyages as required in the second section of the act entitled "An act to suspend the commercial intercourse between the United States and France and the dependencies thereof," shall extend no further than to obligations to the amount of the value of the vessels, respectively, and to a sum in addition thereto equal to one-third of the value of the eargo: Provided, That in no case the surety or sureties shall be answerable for more than ten thousand dollars, anything in the act above mentioned to the contrary notwithstanding.

Approved, July 16, 1798.
(Annals, 5th Cong., pp. 615, 616; Stat. L., vol. 1, p. 609.)

NINTH CONGRESS, FIRST SESSION.

January 28, 1806.

On the suspension of commercial intercourse between the United States and the French island of Santo Domingo, Mr. Logan reported

the following bill:

Be it enacted, etc., That all commercial intercourse between any person or persons resident within the United States and any person or persons resident within the island of San Domingo, not in possession and under the acknowledged Government of France, shall be, and from and after due notice of this act at the custom-houses, respectively, is hereby, prohibited. And any ship or vessel owned, hired, or employed, wholly or in part, by any person or persons resident within the United States, or by any citizen or citizens thereof, resident elsewhere, and sailing from any port of the United States after that time, or from any other portion of America, after the ---- day of ---- next, or from any other port whatever, after the ---- day of -, which, contrary to the intent hereof, shall be voluntary carried, or shall be destined to proceed, whether directly or from any intermediate port or place, to any port or place in the island of San Domingo, and not in possession and not under the acknowledged Government of France, and also any cargo which shall be found on board of such ship or vessel, when detected or interrupted in such unlawful purpose, or at her return from such voyage to the United States, shall be wholly forfeited and may be seized or condemned in any port of the United States.

SEC. 2. And be it further enacted, That after due notice of this act at the several custom-houses, no ship or vessel whatever shall receive a clearance for any port or place within the island of San Domingo, and not in the actual possession of France; nor shall any clearance be granted for any foreign voyage to any ship or vessel, hired, owned, or employed, wholly or in part, by any person or persons resident in the United States, by any citizen or citizens thereof resident elsewhere,

until the owner or the employer for the voyage or his factor or agent, with the master and one or more sufficient surety or sureties to the satisfaction of the collector of the district, shall give bond to the United States, such owner, employer, or factor, with the master, in a sum equal to the value of the vessel and of her cargo, and such surety or sureties in a sum equal to the value of the vessel and of one-third of her cargo, when it shall not exceed ten thousand dollars, and if it shall exceed that sum, with condition that the ship or vessel for which a clearance shall be required, is actually destined and shall proceed to some port or place without the limits of such part of the island of San Domingo as shall not be in the actual possession and under the acknowledged Government of France, and during the intended voyage shall not be voluntarily carried or permitted to proceed, whether directly or from any intermediate port or place, to any port or place within the island of San Domingo as shall not be in the actual possession and under the acknowledged Government of France and shall not at any port or place voluntarily sell, deliver, or unlade any part of such cargo, and generally that such ship or vessel, whilst on such voyage, shall not be employed in any traffic or commerce with or for any person resident within any part of the island of San Domingo not in the actual possession and under the acknowledged Government of France.

SEC. 3. And be it further enacted, That all penalties and forfeitures incurred by force of this act, and which may be recovered, shall be distributed and accounted for in the manner prescribed by the act entitled, "An act to regulate the collection of duties on imports and tonnage;" and may be mitigated or remitted in the manner prescribed by the act entitled "An act to provide for mitigating or remitting the forfeitures, penalties, and disabilities accruing in cer-

tain cases therein mentioned."

(Annals, 9th Cong., 1st sess., pp. 52, 75.)

February 28, 1806.

On the suspension of commercial intercourse between the United States and the French island of Santo Domingo, Mr. Baldwin reported

the following bill:

Be it enacted, etc., That all commercial intercourse between any person or persons resident within the United States and any person or persons resident within the island of Santo Domingo not in possession and under the acknowledged Government of France shall be, and is hereby, prohibited; and any ship or vessel owned, hired, or employed, wholly or in part, by any person or persons resident within the United States and sailing from any port within the United States after due notice of this act at the custom-houses, respectively, which, contrary to the intent thereof, shall be voluntarily carried, or shall be destined to proceed, whether directly or from any intermediary port or place, to any port or place within the island of Santo Domingo and not be in possession and not under the acknowledged Government of France; and also any cargo which shall be found on board of such ship or vessel, when detected and interrupted in such unlawful purpose or at ner return from such voyage to the United States, shall be wholly forfeited, and may be seized and condemned in any court of the United States having competent jurisdiction.

That after due notice of this act at the several custom-houses no ship or vessel whatever shall receive a clearance for any port or place within the island of Santo Domingo and not in actual possession of France; nor shall any clearance be granted for a foreign voyage to any ship or vessel owned, hired, or employed, wholly or in part, by any person or persons resident within the United States until the owner or employer for the voyage, or his factor or agent, with the master, shall give bond to the United States in a sum equal to the value of the vessel and of her cargo, with condition that the ship or vessel, for which a clearance shall be required, is destined to some port or place without the limits of such part of the island of Santo Domingo as shall not be in the actual possession and under the acknowledged Government of France, and during the intended voyage shall not be voluntarily carried or permitted to proceed, whether directly or from any intermediate port or place, to any port or place within such part of the island of Santo Domingo as shall not be in the actual possession and under the acknowledged Government of France; and in case of being forced by any casualty into any port or place hereby interdicted shall not, in any such port or place, voluntarily sell, deliver, or unlade any part of such cargo, except so much as may be absolutely necessary to defray the expenses requisite to enable the vessel to proceed on her intended voyage; and generally that such ship or vessel whilst on such voyage shall not be employed in any traffic or commerce with or for any person resident within any part of the island of Santo Domingo not in the actual possession and under the acknowledged Government of France.

That all penalties and forfeitures incurred by force of this act, and which may be recovered, shall be distributed and accounted for in the manner prescribed by the act intituled "An act to regulate the collection of duties on imports and tonnage," passed the second day of March, one thousand seven hundred and ninety-nine, and may be mitigated or remitted in the manner prescribed by the act intituled "An act to provide for mitigating or remitting the forfeitures, penalties, and disabilities accruing in certain cases therein mentioned," passed the third of March, one thousand seven hundred and ninetyseven, and made perpetual by an act passed the eleventh of February,

one thousand eight hundred.

That this act shall continue and be in force for one year and no

longer.

That at any time after the passing of the act it shall be lawful for the President of the United States, if he shall deem it expedient and consistent with the interests of the United States, by his order to remit and discontinue the restraints and prohibitions on the commerce aforesaid.

Approved, February 28, 1806. (Stat. L., vol. 2, pp. 351, 352; vol. 4, p. 36.)

TENTH CONGRESS, FIRST SESSION.

April 16, 1808.

As to the attack upon the frigate Chesapeake by the British ship of

war Leopard, Mr. Anderson reported as follows:

That, on a review of the several orders, decrees, and the decisions of Great Britain and France, within the period of the existing war, it appears that, previous to the measures above referred to in the letters from Mr. Erskine to the Secretary of State, and from Mr. Champagny to General Armstrong, various and heavy injuries have been committed against the neutral commerce and navigation of the United States under the following heads:

First. The British order of June, 1803, unlawfully restricting the trade of the United States, with a certain portion of the unblockaded ports of her enemies, and condemning vessels with innocent cargoes, on a return from ports where they had deposited contraband articles.

Second. The capture and condemnation, in the British courts of admiralty, of American property, on a pretended principle, debarring neutral nations from a trade with the enemies of Great Britain interdicted in time of peace. The injuries suffered by the citizens of the United States on this head arose not from any public order of the British council, but from a variation in the principle upon which the courts of admiralty pronounced their decisions. These decisions have, indeed, again varied without any new orders of council being issued; and in the higher courts of admiralty some of the decisions which had formed the greatest cause for complaint have been reversed and the property been restored. There still remains, however, a heavy claim for indemnity for confiscations which were made during the period of these unwarrantable decisions, and for which all negotiation has hitherto proved unavailing.

Third. Blockades notified to the minister of the United States at London, and thence made a capture against the trade of the United States, in entire disregard to the law of nations, and even of the definition of legal blockades laid down by the British Government itself. Examples of these illegitimate blockades will be found in the notifications of the blockade of May 16, 1806, of the coast of the river Elbe to Brest, inclusive; blockade of the 11th May, 1807, expounded 19th June, 1807, of the Elbe, Weser, and Ems, and the coast between the same; blockade 11th May, 1807, of the Dardanelles and Smyrna; blockade of 8th January, 1808, of Carthagena, Cadiz, and St. Lucia, and all of the intermediate ports between Carthagena and St. Lucar, comprehending a much greater extent of coast than the whole British navy could blockade according to the established law of nations.

Fourth. To these injuries, immediately authorized by the British Government, might be added other spurious blockades by British naval commanders, particularly that of the island of Curacoa, which, for a very considerable period, was made a pretext for the very extensive spoliations on the commerce of the United States.

Fifth. The British proclamation of October last, which makes it the duty of British officers to impress from American merchant vessels all such of their crews as might be taken or mistaken for British sub-

jects, these officers being the sole and absolute judges in the case. For the decrees and acts of the French Government violating the maritime law of nations, in respect to the United States, the committee refer to the instances contained in the report of the Secretary of State, January 25, 1806, to the Senate, in one of which, viz, a decree of the French General Ferrand, at Santo Domingo, are regulations sensibly affecting the neutral and commercial rights of the United States.

The French act, next in order of time, is the decree of November 21, 1806, declaring the British Isles in a state of blockade, and professing to be a retaliation on antecedent proceedings of Great Britain, violating the law of nations.

This decree was followed, first, by the British order of January, 1807, professing to be a retaliation on that decree, and subjecting to capture the trade of the United States, from the port of one belligerent to the port of another; and, secondly, by the orders of November last, professing to be a retaliation on the same decree, and prohibiting the commerce of neutrals with the enemies of Great Britain, as explained in the aforesaid letter of Mr. Erskine. These last British orders have been again followed by the French decree of December 17, purporting to be a retaliation on the said orders, and to be put in force against the commerce of the United States, as stated in the aforesaid letter of Mr. Champagny.

The committee forbear to enter into a comparative view of these proceedings of the different belligerent powers, deeming it sufficient to present the materials from which it may be formed. They think it their duty, nevertheless, to offer the following remarks, suggested

by a collective view of the whole:

The injuries and dangers resulting to the commerce of the United States from the course and increase of these belligerent measures, and from similar ones adopted by other nations, were such as to first induce the more circumspect of our merchants and shipowners no longer to commit their property to the high seas and at length to impose on Congress the indispensable duty of interposing some legislative provision for such an unexampled state of things.

Among other expedients out of which a choice was to be made may be reckoned, first, a protection of commerce by ships of war; second, a protection of it by self-armed vessels; third, a war of offense as well of defense; fourth, a general suspension of foreign commerce; fifth,

an embargo on our vessels, mariners, and merchandise.

This last was adopted, and the policy of it was enforced at the particular moment by accounts, quickly after confirmed, of the British order of November last, and by the probability that these would be followed, as has also happened, by an invigorated spirit of retaliation in other belligerent powers; the happy effect of the precaution is demonstrated by the well-known fact that the ports of Europe are crowded with the captured vessels of the United States, unfortunately not within the reach of the precaution.

With respect to a protection of our commerce by ships of war, it must be obviously impracticable, in any material degree, without a lapse of time, and an expense which amounts to a prohibition of that resort, besides that it would necessarily involve hostile collisions with

one or more of the belligerent powers.

Self-armed merchantmen would have the same tendency. At the same time they would be utterly inadequate to a security against the

multiplied fleets and cruisers to be encountered.

An entire suspension of foreign commerce, as the resort in the first instance, would evidently have produced some inconveniences not incident to the embargo as it was modified. But the committee do not suppress their opinion that, after a reasonable time, it may not improperly take the place of the embargo in the case of a protracted adherence by the belligerent powers to their destructive proceedings against our neutral commerce.

With respect to a resort to war as a remedy for the evils experienced, the committee will offer no other reflection than that it is in itself so great an evil that the United States have wisely considered peace and honest neutrality as the best foundation of their general policy. It is not for the committee to say under what degree of aggravated injuries a departure from this policy may become a duty, and

the most pacific nation find itself compelled to exchange, for the calamities of war, the greater distresses of longer forbearance.

In this present state of things the committee can not recommend any departure from that policy which withholds our commercial and agricultural property from the licensed depredations of the great maritime and belligerent powers. They hope that an adherence to this policy will eventually secure to us the blessings of peace without any sacrifice of our national rights; and they have no doubt that it will be supported by all the manly virtue which the good people of the United States have ever discovered on great and patriotic occasions. But the committee would not suggest on this subject that better counsels in the belligerent governments, producing juster conduct toward neutral nations, would render a continuance of the embargo necessary, and that it will be a provident measure to vest in the Executive a power, in such an event, to suspend until the next session of Congress, wholly or in part, the several acts prohibiting the departure of our vessels for foreign ports.

Although the committee have abstained from entering into any particular comparison of the proceedings of the French and British Governments toward the United States, they can not reconcile it with their duty or with the just sensibility of the nation not to advert to the tenor and language of the late communications made by the

respective organs of those Governments.

In the letter of Mr. Champagny the United States are not only threatened with confiscation as the final destiny of American property seized under French decrees, unless dispositions shall be manifested by them against them by Great Britain satisfactory to France, but they are even declared, without reserve of any sort, to be actually

in a state of war against Great Britain.

In the letter of Mr. Erskine to the Secretary of State the United States are explicity charged with justly subjecting their commerce to confiscations, under British orders, by not opposing an effectual resistance against the decrees of France; in other words, by not making war against that nation in case no other interposition should be effectual. There are in this exposition of the British orders certain features which claim particular attention. Among the regulations of which they consist it is provided that the commerce of the United States, bound from their own ports to its legal and ordinary markets, shall pass through British ports; there shall in all cases take their clearance from British officers, shall in some cases obtain special licenses, and in others pay a direct and avowed tax, thus putting the United States on a commercial footing even worse than was allowed to British colonies, which were left free to carry their exports directly to foreign markets, in cases where an intermediate voyage to the parent country would be too oppressive. In the present case not a single article is permitted to be sent from the United States to the most southern ports of Europe without a previous voyage to Great Britain, and, in some cases, not without purchasing even that privilege—without paying a tribute to the British treasury. The committee have taken into consideration the documents relating to the attack on the frigate Chesapeake; but they have not deemed it their duty, in the actual posture of that subject, to make any other remark than that it strengthens the motives for persevering in all the provisional and precautionary measures hitherto contemplated. The committee beg leave to submit the following resolutions:

Resolved, That the committee do bring in a bill authorizing the President of the United States, in the event of such peace or suspension of hostilities between

the belligerent powers of Europe, or of such changes in their measures affecting neutral commerce, as may render that of the United States sufficiently safe, in his judgment, to suspend the act laying an embargo on all ships and vessels in the ports and harbors of the United States, and the several acts supplementary thereto, under such exceptions and restrictions as the public interest and circumstances of the case may appear to require: *Provided*, Such suspension shall not extend beyond ——days after the commencement of the next session of Congress.

Resolved, That the committee do bring in a bill authorizing the President of the United States to suspend the operation of the several acts prohibiting the importation of certain goods, wares, and merchandise, if in his judgment the public interest should require it: Provided, That suspension shall not extend - days after the commencement of the next session of Congress.

Resolved, That the committee be instructed to report a bill prohibiting after the ——day of ——all commercial intercourse with such of the belligerent nations whose edicts against the neutral commerce of the United States may

render such prohibition expedient.

Resolved, That the committee be further instructed to report a bill expatriating all citizens of the United States commanding such ships or vessels of the United States who shall be convicted of voluntarily accepting any license or paying any tax, in conformity with the British orders in council of the 11th of November last.

Resolved, That the committee further be instructed to report a bill imposing on the navigation and commerce of foreign nations restrictions corresponding with the restrictions imposed by them, respectively, on the commerce and the

navigation of the United States.

(Annals, 10th Cong., 1st sess., pp. 186, 364; Am. St. Pap., vol. 3, p. 218.)

TENTH CONGRESS, SECOND SESSION.

February 16, 1809.

Concerning the interdiction of commercial intercourse between the United States and Great Britain and France and their dependencies,

and for other purposes, Mr. Giles reported the following bill:

That from and after the passing of this act the entrance of the harbors and waters of the United States and of the Territories thereof be, and the same is hereby, interdicted to all public ships and vessels belonging to Great Britain and France, excepting vessels only which may be forced in by distress, or which are charged with dispatches or business from the Government to which they belong, and also packets having no cargo or merchandise on board. And as any public ship or vessel as aforesaid not being included in the exception above mentioned shall enter any harbor or waters within the jurisdiction of the United States, or of the Territories thereof, it shall be lawful for the President of the United States, or such other person as he shall have empowered for the purpose, to employ such part of the land and naval forces, or of the Militia of the United States or of the Territories thereof, as he shall deem necessary, to compel such ship or vessel to depart.

That it shall not be lawful for any citizen or citizens of the United States, or of the territories thereof, or for any person or persons residing or being in the same, to have any intercourse with, or to afford any aid or supplies to any public ship or vessel as aforesaid, which shall, contrary to the provisions of this act, have entered any harbor or waters within the jurisdiction of the United States or the territories thereof; and if any person shall, contrary to the provisions of this act, have any intercourse with such ship or vessel, or shall afford any aid to such ship or vessel, either in repairing the said vessel or

in furnishing her, her officers or crew with supplies of any kind or in any manner whatever, or if any pilot or other person shall assist in navigating such ship or vessel, unless it be for the purpose of carrying her beyond the limits and jurisdiction of the United States, every person so offending shall forfeit and pay a sum not less than one hundred dollars nor exceeding ten thousand dollars; and shall also be imprisoned for a term not less than one month nor more than

one year.

That from and after the twentieth of May next the entrance of the harbors and waters of the United States and the Territories thereof, and the same is hereby interdicted to all ships or vesssels sailing under the flag of Great Britain or France, or owned in whole or in part by any citizen or subject of either; vessels hired, chartered, or employed by the Government of either country for the sole purpose of carrying letters or dispatches, and also vessels forced in by distress or by the dangers of the sea only excepted. And if any ship or vessel sailing under the flag of Great Britain or France, or owned in whole or in part by any citizen or subject of either and not excepted as aforesaid, shall, after the twentieth day of May next, arrive either with or without a cargo within the limits of the United States or of the Territories thereof, such ship or vessel, together with the cargo, if any, which may be found on board shall be forfeited, and may be seized and condemned in any court of the United States or the Territories thereof having competent jurisdiction, and all and every act or acts heretofore passed which shall be within the purview of this act shall

shall be and the same are hereby repealed.

That from and after the twentieth day of May next it shall not be lawful to import into the United States or the Territories thereof any goods, wares, or merchandise whatever from any port or place situated in Great Britain or Ireland, or in any of the colonies or dependencies of Great Britain, nor from any port or place situated in France, or in any of her colonies or dependencies, nor from any port or place in the actual possession of either Great Britain or France. Nor shall it be lawful to import into the United States or the Territories thereof from any foreign port or place whatever any goods, wares, or merchandise whatever being the growth, produce, or manufacture of France, or any of her colonies or dependencies, or being of the growth, produce, or manufacture of Great Britain or Ireland, or of any of the colonies or dependencies of Great Britain, or being of the growth, produce, or manufacture of any place or country in the actual possession of either Great Britain or France: Provided, That nothing herein contained shall be construed to affect the cargoes of ships or vessels owned wholly by a citizen or citizens of the United States which had cleared for any port beyond the Cape of Good Hope prior to the twenty-second day of December, one thousand eight hundred and seven, or which had departed for such port by the permission of the President under the acts supplementary to the act laying an embargo on all ships and vessels in the ports and harbors of the United States.

That whenever any article or articles, the importation of which are prohibited by this act, shall after the twentieth of May be imported into the United States or the Territories thereof contrary to the true intent and meaning of this act, or shall after the twentieth day of May be put on board of any ship or vessel, boat, raft, or carriage with the intention of importing the same into the United States or the Territories thereof, all such articles as well as all other articles on board

the same ship or vessel, boat, raft, or carriage belonging to the owner of such prohibited articles shall be forfeited, and the owner thereof shall moreover forfeit and pay treble the value of such articles.

That if any article or articles, the importation of which is prohibited by this act, shall after the twentieth day of May be put on board of any ship or vessel, boat, raft, or carriage with the intention of importing the same into the United States or the Territories thereof contrary to the true intent and meaning of this act, and with the knowledge of the owner or master of such ship or vessel, boat, raft, or carriage, such ship or vessel, boat, raft, or carriage shall be forfeited, and the owner or master thereof shall moreover each forfeit

and pay treble the value of such articles.

That if any article or articles, the importation of which are prohibited by this act, and which shall nevertheless be on board of any ship, boat, raft, vessel, or carriage arriving after the twentieth day of May next in the United States or the Territories thereof, shall be omitted in the manifest, report, or entry of the master or the person having the charge or command of such ship or vessel, boat, raft, or carriage, or shall be omitted in the entry of the goods owned by the owner or consigned to the consignee of such articles, or shall be imported or landed, or attempted to be imported or landed without a permit, the same penalties, fines, and forfeitures shall be incurred, and may be recovered as in the case of similar omission or omissions, landing, importation, or attempt to land or import in relation to articles liable to duties on their importation into the United States.

That every collector, naval officer, surveyor, or other efficer of the customs shall have the like power and authority to seize goods, wares, and merchandise imported contrary to the intent and meaning of this act, to keep the same in custody until it shall have been ascertained whether the same have been forfeited or not, and to enter any ship or vessel, dwelling house, store, building, or other place for the purpose of searching for and seizing any such goods, wares, and merchandise which he or they now have by law in relation to goods, wares, and merchandise subject to duty; and if any person or persons shall conceal or buy any goods, wares, or merchandise, knowing them to be liable to seizure by this act, such person or persons shall, on conviction thereof, forfeit and pay a sum double the amount or value of the

goods, wares, and merchandise so concealed or purchased.

That the following additions shall be made to the oath or affirmation taken by the masters or persons having the charge or command of any ship or vessel arriving at any port of the United States or the Territories thereof after the twentieth day of May, viz: "I further swear (or affirm) that there are not, to the best of my knowledge and belief, on board (insert the denomination and name of the vessel) any goods, wares, or merchandise, the importation of which into the United States or the Territories thereof is prohibited by law; and I do further swear (or affirm) that if I shall hereafter discover or know of any such goods, wares, or merchandise on board the same vessel, or which shall have been imported in the same, I will immediately and without delay make due report thereof to the collector of the port of this district."

That the following addition be made, after the twentieth of May, to the oath or affirmation taken by importers, consignees, or agents, at the time of entering goods imported into the United States or the Territories thereof, viz: "I also swear (or affirm) that there are not, to the best of my knowledge and belief, amongst the said goods, wares, and merchandise imported or consigned as aforesaid, any goods, wares, and merchandise, the importation of which into the United States or the Territories thereof is prohibited by law; and I do further swear (or affirm) that if I shall hereafter discover or know of any such goods, wares, or merchandise amongst the said goods, wares, and merchandise imported or consigned as aforesaid, I will immediately and without delay report the same to the collector of this district."

That the President of the United States be, and he hereby is, authorized, in case either France or Great Britain shall so revoke or modify her edicts as that they shall cease to violate the neutral commerce of the United States, to declare the same by proclamation; after which the trade of the United States suspended by this act and by the act laying an embargo on all ships and vessels in the ports and harbors of the United States and the several acts supplementary thereto may be renewed with the nation so doing: Provided, That all penalties and forfeitures which shall have been previously incurred by virtue of this or any other act the operation of which shall so cease and determine shall be recovered and distributed in like manner as if the same had continued in full force and virtue; and vessels bound thereafter to any foreign port or place with which commercial intercourse by virtue of this section be again permitted shall give bond to the United States, with approved security, in double the value of the vessel and cargo that they shall not proceed to any foreign port nor trade with any other country other than those with which commercial intercourse shall have been or may be permitted by this act.

That so much of the act laying an embargo on all ships and vessels in the ports and harbors of the United States, and of the several acts supplementary thereto, as forbids the departure of vessels owned by citizens of the United States and the exportation of domestic and foreign merchandise to any foreign port or place be, and the same is hereby, repealed after the fifteenth day of March, one thousand eight hundred and nine, except so far as they relate to Great Britain or France or their colonies or dependencies—places in the actual possession of either: *Provided*, that all the penalties and forfeitures which shall have been previously incurred by virtue of so much of the said acts as is repealed by this act, or which have been or may hereafter be incurred by virtue of the said acts on account of any infraction of so much of the said acts as is not repealed by this act, shall be recovered and distributed in like manner as if the said acts had continued

in full force and virtue.

That during the continuance of so much of the act laying an embargo on all ships and vessels in the ports and harbors of the United States, and of the several acts supplementary thereto, as is not repealed by this act, no ship or vessel bound to a foreign port, with which commercial intercourse shall, by virtue of this act, be again permitted, shall be allowed to depart for such port unless the owner or owners, consignee, or factor of such ship or vessel, and in a sum four times the value if the vessel is owned in part or in whole by any foreigner or foreigners, that the vessel shall not leave the port without a clearance, nor shall, when leaving the port, proceed to any port or place in Great Britain or France, or in the colonies or the dependencies of either, or in the actual possession of either, nor be directly or indirectly engaged during the voyage in any trade with such port, nor shall put any article on board of any other vessel, nor unless every other requisite and provision of the second

section of the act intituled "An act to enforce and make more effectual an act intituled "An act laying an embargo on all ships and vessels in the ports and harbors of the United States, and the several acts supplementary thereto," shall have been complied with. And the party or parties to the above-mentioned bond shall, within a reasonable time after the date of the same, to be expressed in the said bond, produce to the collector of the district from which the vessel shall have cleared, a certificate of the landing of the same, in the same manner as is provided by law for the landing of goods exported with the privilege of drawback; on failure whereof the bond shall be put in suit, and in every such suit judgment shall be given against the defendant or defendants, unless proof shall be produced of such

relanding or of loss at sea.

That so much of the act laying an embargo on all ships and vessels in the ports and harbors of the United States, and of the several acts supplementary thereto, as compels vessels owned by citizens of the United States, bound to another port of the same States, or vessels licensed for the coasting trade, or boats either not masted or not decked, to give bond and to load under the inspection of a revenue officer, or renders them liable to detention merely on account of the nature of their cargo (such provisions excepted as relate to collection districts adjacent to the territories, colonies, or provinces of a foreign nation, or to vessels belonging to or bound to such districts), be, and the same is hereby, repealed from and after the fifteenth day of March, one thousand eight hundred and nine: Provided, however, That all penalties and forfeitures which shall have been previously incurred by any of the said acts, or may hereafter be incurred by virtue of the said acts on account of any infraction of so much of the said acts as is not repealed by this act, shall be recovered and distributed in like manner as if the same had continued in full force and

That during the continuance of so much of the said act laying an embargo on all ships and vessels in the ports and harbors of the United States, and of the several acts supplementary thereto, as is not repealed by this act, no vessel owned by the citizens of the United States, bound to another port of the United States, or licensed for the coasting trade, shall be allowed to depart from any port of the United States, or shall receive a clearance, nor shall it be lawful to put on board of any such vessel any specie or goods, wares, or merchandise, unless a permit shall have been previously obtained from the proper collector, or from a revenue officer authorized by the collector to grant such permits, nor unless the owner, consignee, agent, or factor shall with the master give bond, with one or more sureties, to the United States, in a sum double the value of the vessel and cargo, that the vessel shall not proceed to any foreign port or place, and that the cargo shall be relanded in some port of the United States: Provided, That it shall be lawful and sufficient in the case of any such vessel whose employment has been uniformly confined to rivers, bays, and sounds within the jurisdiction of the United States to give bond in an amount equal to one hundred and fifty dollars for each ton of said vessel, with condition that such vessel shall not, during the time limited in the condition of the bond, proceed to any foreign port or place, or put any article on board of any other vessel, or be employed in any foreign trade.

That if any ship or vessel shall, during the continuance of so much of the act laying an embargo on all ships and vessels in the ports and

harbors of the United States, and of the several acts supplementary thereto, as is not repealed by this act, depart from any port of the United States without a clearance or permit, or having given bond in the manner provided by law, such ship or vessel, together with her cargo, shall be wholly forfeited; and the owner or owners, agent, freighter, or factors, master or commander of such ship or vessel shall, moreover, severally forfeit and pay a sum equal to the value of the ship or vessel and of the cargo put on board of the same.

That the act to prohibit the importation of certain goods, wares, and merchandise, passed the eighteenth of April, one thousand eight hundred and six, and the act supplementary thereto, be, and the same are hereby, repealed from and after the twentieth day of May next: *Provided*, That all penalties and forfeitures which shall have been previously incurred by virtue of the said acts shall be recovered and distributed in like manner as if the said acts had continued in full

force and virtue.

That all penalties and forfeitures arising under or incurred by virtue of this act may be sued for, prosecuted, and recovered, with costs of suit, by action of debt, in the name of the United States of America, or by indictment or information, in any court having competent jurisdiction to try the same; and shall be distributed and accounted for in the manner prescribed by the act intituled "An act to regulate the duties on imports and tonnage," passed the second day of March, one thousand seven hundred and ninety-nine; and such penalties and forfeitures may be examined, mitigated, or remitted in like manner or under the like conditions, regulations, and restrictions as are prescribed, authorized, and directed by the act intituled "An act to provide for mitigating and remitting the forfeitures, penalties, and disabilities accruing in certain cases therein mentioned," passed the third day of March, one thousand seven hundred and ninety-seven, and made perpetual by an act passed the eleventh day of February, one thousand eight hundred.

That this act shall continue and be in force until the end of the next session of Congress, and no longer; and that the act laying an embargo on all ships and vessels in the ports and harbors of the United States, and the several acts supplementary thereto, shall be, and the same are hereby, repealed from and after the end of the next session

of Congress.

(Stat. L., vol. 2, p. 528; vol. 4, pp. 344, 345, 346.)

ELEVENTH CONGRESS, SECOND SESSION.

April 24, 1810.

Concerning commercial intercourse between the United States and Great Britain and France and their dependencies, Mr. Smith reported

the following amendments to the bill of the House:

Sec. 1, line 2: Strike out section 1 and insert in lieu thereof the following: "Section 1. From and after the passage of this act no British or French armed vessel shall be admitted to enter the harbors or waters under the jurisdiction of the United States; but every British and French armed vessel is hereby interdicted, except when they shall be forced in by distress, by the dangers of the sea, or when charged with dispatches or business from their Government, or coming as a

public packet for the conveyance of letters; in which case, as well as in all others, when they shall be permitted to enter, the commanding officer shall immediately report his vessel to the collector of the district, stating the object or causes of his entering the harbors or waters of the United States, and shall take such position therein as shall be assigned him by such collector, and shall conform himself, his vessel, and crew to such regulations respecting health, repairs, supplies, stay, intercourse, and departure as shall be signified to him by the said collector, under the authority and direction of the President of the United States, and not conforming thereto shall be required to depart from the United States."

Strike out the second, third, and fourth sections, and insert:

"Sec. 2. That all pacific intercourse with any interdicted foreign armed vessels, or the officers or crew thereof, is hereby forbidden; and if any person shall afford any aid to such armed vessel, either in preparing her or in furnishing her, her officers or crew with supplies of any kind or in any manner whatsoever, or if any pilot shall assist in navigating the said armed vessel contrary to his prohibition, unless for the purpose of carrying her beyond the limits and jurisdiction of the United States, the person or persons so offending shall be liable to be bound to their good behaviour, and shall moreover forfeit and pay a sum not exceeding two thousand dollars, to be recovered upon indictment or information in any court of competent jurisdiction; one moiety thereof to the Treasury of the United States and the other moiety to the person who shall give information and prosecute the same to effect: Provided, That if the prosecution shall be by a public officer the whole forfeiture shall accrue to the Treasury of the United States.

"Sec. 3. That the President of the United States be, and hereby is, authorized to employ the public and armed vessels in protecting the commerce of the United States, and to issue instructions which shall be conformable to the laws and usages of nations for the government of the ships which may be employed in that service."

SEC. 5. Strike out from the word "aforesaid," in the seventeenth

line, to the end of the section.

(Leg. Jour., vol. 4, pp. 497, 499; Stat. L., vol. 2, p. 605; Annals, 11th Cong., 2d sess., p. 666.)

THIRTEENTH CONGRESS, FIRST SESSION.

June 28, 1813.

Concerning trade or traffic with the dominions or dependencies of the United Kingdom of Great Britain and Ireland by citizens of the

United States, Mr. Campbell reported the following bill:

That any citizen or inhabitant of the United States or the Territories thereof who shall, during the war in which the said United States is at present engaged, either directly or indirectly carry on any trade, commerce, or traffic in any articles whatever with any of the dominions, colonies, or dependencies of the United Kingdom of Great Britain and Ireland, or with any person or persons residing within the same; and any citizen or inhabitant as aforesaid who shall directly or indirectly be privy to, or aiding or abetting in carrying on any such trade, commerce, or traffic, shall be adjudged guilty of a misdemeanor and shall upon conviction for every such offence be imprisoned for a term

not exceeding two years nor less than six months and be fined in a sum not exceeding five thousand nor less than five hundred dollars; and any ship, vessel, or carriage, of what kind soever, employed or used in any such trade, commerce, or traffic, as above described, and any cargo which shall be found on board of such ship or vessel, and any articles which shall be found in such carriage, when detected or taken in such unlawful trade, commerce, or traffic, or at the return of the same to the United States, shall be forfeited, the one-half to the use of the United States, and the other half to any person or persons who shall give information thereof, and may be seized wherever found, and condemned before any court of the United States or the Territories thereof having competent jurisdiction: *Provided*, That nothing in this act contained shall be so construed as to repeal, impair, or affect any law now in force providing for the punishment of treason or of any other offence against the United States.

(Annals, 13th Cong., 1st sess., pp. 18, 19, 36.)

THIRTEENTH CONGRESS, SECOND SESSION.

April 11, 1814.

On message of President of March 31, 1814, as to commercial intercourse with foreign nations, Mr. Bibb, of Georgia, made the following

report:

Taking into consideration the great importance of the measures recommended, the committee think it a duty which they owe to the House and to the nation to state the grounds on which their report is founded. Uniting with the Executive in the policy of those measures, they wish to explain the reasons which have produced that union.

Of the past it is unnecessary to take a review. The attention of the

committee is drawn with more solicitude to the future.

Previous to the late changes in Europe the bearing of our restrictive measures was for the most part confined to our enemies; the obstructions to our commercial intercourse with the friendly powers of the

world being in a manner insuperable.

At present a prospect exists of an extended commercial intercourse with them, highly important to both parties, and which, it may be presumed, they will find an equal interest and disposition to promote. Denmark, all Germany, and Holland, heretofore under the double restraint of internal regulations and external blockades and depredations, from a commerce with the United States, appear by late events to be liberated therefrom. Like changes equally favorable to the commerce of this country appear to be taking place in Italy and the more eastern parts of the Mediterranean. With respect to Spain and Portugal, in the commerce with whom the United States have great interest, it may be expected that commerce may be carried on without the aid heretofore afforded to the enemy. Should peace take place between France and her enemies, including Great Britain, the commerce of the United States with France will fall under the same remarks.

The considerations of an internal nature which urge a repeal of these acts at this time are not less forcible than those which have already been related. Among those are the following: The committee are persuaded that it will considerably augment the public revenue, and thereby maintain the public credit; that it will enhance

the price and promote the circulation of our produce in lieu of specie, which has of late become so much the object of speculations tending to embarrass the Government.

(Am. St. Pap., vol. 3, p. 629; Leg. Jour., vol. 5, p. 493.)

THIRTEENTH CONGRESS, THIRD SESSION.

February 27, 1815.

As to the expediency of making provision by law to release all or any claims of the United States to penalties or forfeitures, under acts which have imposed prohibitions or temporary restrictions on commercial intercourse, and to discontinue prosecutions therefor upon payment of costs legally incurred, Mr. Bibb reported as follows:

That it is inexpedient to make such provision.

(Leg. Jour., vol. 3, p. 670.)

FOURTEENTH CONGRESS, FIRST SESSION.

March 7, 1816.

On system of navigation for the United States Mr. Bibb made the

following report:

The attention of the committee has been drawn to the policy of "confining the American navigation to American seamen" by the message of the President of the United States. Two considerations, distinct in their character, are suggested in behalf of the measure: First, as it might have a conciliatory tendency toward foreign nations; and, second, as it would increase the independence of our navigation and the resources of our maritime defense.

An act for the regulation of the seamen on board of the public and private vessels of the United States, passed the 3d day of March, 1813, prohibits the employment as seamen of the subjects or citizens of any foreign nation which shall prohibit the like employment of citizens of the United States. That act furnishes indiputable evidence of the conciliatory spirit of the national councils, and a corresponding disposition on the part of other Governments only is wanting to give it effect. The committee, however, deem it expedient to advance the independence of the navigation and resources or maritime defense of the United States, and for that purpose submit a bill to the consideration of the Senate. That the nature and extent of its provisions may be more readily understood, the following outline of the existing regulations concerning commercial vessels and of the proposed modifications is presented:

Commercial vessels which are registered or enrolled according to the existing laws are denominated ships or vessels of the United States. For carrying on trade with foreign countries they are registered. For the coasting trade or fisheries of the United States they

are enrolled or licensed.

Ships or vessels built within the United States, or captured or condemned as prize, or adjudged as forfeited for breach of law, and belonging wholly to the citizens of the United States, may be registered or enrolled, if they are commanded by citizens, either native or

naturalized. Such vessels are regarded as belonging to the ports nearest to which the managing owners reside. And they are registered or enrolled in the offices of the customs for the districts which

comprehend the respective ports.

When a vessel is registered, the ownership, name, description, and tonnage, being legally ascertained, are stated distinctly, with the name of the master, and entered in some proper book for a record or registry to be kept by the collector of customs. A certificate of such registry is issued as evidence of ownership to accompany the vessel, in addition to the seal and signature of the Register of the Treasury of the United States, and is attested under the seal of the collector with his signature, and is countersigned by the naval officer or surveyor, where there is such an officer, for the port to which the vessel belongs. And a copy is transmitted to the Register of the Treasury.

The certificate of a vessel to be employed in foreign waters may continue in force so long as the ownership continues the same. On a change of property, if purchased by any citizen of the United States, the vessel is registered anew. When the master is changed, the collector of the customs is authorized to indorse a memorandum of such

change on the certificate of registry.

The requisites for this important document are prescribed in the act of the 31st of December, 1792, entitled "An act concerning the registering and recording of ships and vessels." And the various provisions in the same act were adapted to guard the interest of shipowners and shipbuilders of the United States against the intrusions

or impositions of foreigners.

In relation to vessels of 20 tons or upward which may be enrolled, the same qualifications and requisites are required, and similar guards against abuses are provided in the act of the 18th of February, 1793, entitled "An act for enrolling and licensing ships or vessels to be employed in the coasting trade and fisheries, and for regulating the same." A certificate of enrollment, which is issued for a coasting or fishing vessel of the United States, is strictly analogous to the certificate of registry for a merchant vessel. The documents contain similar statements respecting the vessels and the titles of the owners, and are authenticated in the same manner.

Vessels of less than 20 tons are licensed, without being enrolled, according to the act of the 18th of February, 1793. And the duty of tonnage on a licensed vessel is payable once in a year. A license is issued from the office of the customs for the vessel to be employed in the coasting trade or the whale fishery or the cod fishery. It may be in force for one year, and is given under the hand and seal of the collector, who is required to make a record of such licenses, and transmit copies to the Register of the Treasury, that the privileges appertaining to ships or vessels of the United States in the coasting trade or fisheries may be fully enjoyed; and the same law requires enrolled vessels to have licenses.

As the act of the 31st of December, 1792, has provided that the privileges appertaining to registered ships or vessels of the United States shall not continue to be enjoyed longer than they continue to be commanded by citizens of the United States, it has, in effect, required every such vessel to have one citizen on board as master or commander. And the same requisite is included in the act of the 18th of February, 1793, for enrolling or licensing ships or vessels. These acts contain the principal regulations for commercial shipping. There are no laws in operation which require any more of the citizens

to be employed for navigating the vessels in foreign trade or the coasting trade or fisheries. There is no act of Congress which requires the subordinate officers, or any part of the crew on board any vessel whatever, to be citizens of the United States.

On examination it appears that systematic regulations concerning the ownership of vessels were established by the registering act of December, 1792, and the enrolling and licensing act of February, 1793, but the United States have remained to this day without a navigation

act for each branch of their commerce.

As it concerns the maritime interests of the United States, therefore it is of importance to establish a policy requiring the commercial vessels of the United States to be navigated principally by mariners of the country. With this view, it is considered proper to allow the privileges of American character to none but vessels navigated by American mariners, as the law may require, to provide for ascertaining who shall be regarded as such mariners, and to make it requisite for vessels of the United States to have documents on board as evidence of being so navigated.

That the policy may be carried into effect without inconvenience, various particulars in a system of navigation must correspond to existing laws respecting the collection of duties, the ownership of vessels, or the government of persons in the merchant service or fisheries. Several regulations similar to those already in force are proposed to

be incorporated.

The documents for vessels sailing on foreign voyages may supersede the use of any other certificates of citizenship for persons employed in navigating them, and it is proposed to repeal the section of the act of May, 1796, which has authorized the collectors to deliver certificates to individual mariners. Abuses which are known to have prevailed in relation to such certificates may be avoided by requiring proper documents to accompany the vessels.

(Annals, 14th Cong., 1st sess., p. 172.)

SEVENTEENTH CONGRESS, FIRST SESSION.

March 15, 1822.

[Senate Report No. 6.]

Mr. King, of New York, from the Committee on Foreign Relations, to whom were referred the memorial of R. Appleby and others, of the collection district, South Carolina, and the resolutions of the chamber of commerce of the city of Baltimore, praying for the repeal of the laws closing the ports of the United States against British vessels employed in the trade between the United States and the British

colonies in the West Indies, report:

That, referring to the period between the completion of the Revolution and the adoption of the Constitution, it can not be doubted that the embarrassments of the agriculture, trade, and navigation of the several States were truly ascribed to the want of power in the Congress to make adequate laws for their encouragement and protection, and no motive in favor of the adoption of the Constitution was more strongly or more generally felt than the opinion that the vesting of power in Congress to regulate trade would serve to promote the welfare and prosperity of the Union.

The new Government under the Constitution very soon experienced

the influence created by the extraordinary changes that were taking place in France, and which in the sequel engaged all Europe in arms.

War between the great maritime powers invariably produces temporary relaxations of their laws respecting the trade and navigation of foreign nations with their respective territories. The suspension of these laws, and especially of such of them as regulated the colonial trade, had the effect of giving to the agriculture, trade, and navigation of the United States the advantages which would have been given to them by a system of free trade that should have for its basis the equal and reciprocal benefits of all nations.

The condition of neutrality that was adopted by the United States during the wars of the French Revolution secured to every commercial nation benefits which a peaceable and industrious people are able to afford during periods of great public calamity, and our example during these wars has served to prove that justice is the most profit-

able as well as the wisest policy of nations.

Since the establishment of the general peace some of the maritime nations, notwithstanding the doubts that have been raised in regard to the truth of the former theories of trade, have returned to and resumed their ancient commercial policy, and in consequence thereof the United States have in their own defense been obliged to resort to the exercise of the powers to regulate trade vested in Congress for the purpose of protecting and cherishing the industry and navigation of the States.

Great moderation has been observed by the United States on this subject, and persevering endeavors have been made to adjust by treaty their commercial intercourse with foreign nations, and especially with England. So far as respects the English territories in Europe and in Asia, the intercourse is arranged by the treaty of 1815; but this treaty contains no provision concerning the navigation and trade between the United States and the English colonies in the West Indies and North America. The value of this branch of trade and the importance of the navigation employed in the same have been long understood by both parties, and the actual embarrassment thereof which now exists can not be ascribed to the want of a disposition on the part of the United States to have placed the same on a fair and friendly footing; but it continues to be insisted on by England that, not only the colonial trade, but the trade between the United States and these colonies ought to be considered and regulated as a monopoly that foreign nations are bound to respect and with which they may not interfere.

The act commonly called the navigation act of England, while it reserves the colonial navigation exclusively to the vessels of England and her colonies, opens the trade between England and foreign nations to the vessels of both, subject to equal and the same regulations.

The colonial, like the coasting trade, has been treated as a monopoly so long as the same was confined to the navigation between territories of the same nation; but whenever it may suit the convenience of a nation to open a trade between her colonies and a foreign nation, the claim to treat this trade as a monopoly is without just authority, being contrary to the rights of such foreign nation, which within its own dominions must possess authority to make such regulations as may be deemed expedient.

It is an unwarrantable extension of national monopolies by ex parte laws to attempt to include the navigation of a foreign nation within the rules by which the navigation between portions of the same nation is governed. If this may be done between the colonies and a foreign nation, it may also be done in respect to the navigation between any other portion or the whole of the territories of such nation and foreign

nations

England allows the importation of lumber and breadstuffs from the United States into the colony of Jamaica, but forbids the same unless the importation be made in English vessels; she also allows the importation of cotton and tobacco from the United States into England, but with equal right she may forbid the same unless the importations be made in English vessels. This has not been done in the latter case, and there would be but one sentiment in the United States should it be attempted. Yet in the former case this is and has been the law ever since the date of our independence, and it may with equal right be applied to Liverpool as to Jamaica.

After long endurance and fruitless efforts to adjust this question by treaty, Congress, with great unanimity, have passed laws to countervail the restrictions imposed by England upon the intercourse between

the United States and her colonies in the West Indies.

England having forbidden the importation of supplies from the United States into her West India colonies in American vessels, the United States, in their turn, have forbidden the exportation of these supplies in British vessels. The two restrictions have put an end to the direct intercourse, and the trade is carried on indirectly, the supplies for these colonies being carried in American vessels from the United States to the Swedish and Danish islands, and the produce of the English West Indies being brought in English vessels to the same islands, and there exchanged for the provisions and lumber of the United States. American supplies are also sent in American vessels to the free port of Bermuda, and there sold for cash; and flour, in like manner, is sent from the United States to the island of Cuba, as well as to the port of Liverpool, and from these places carried in English vessels to Jamaica and other English colonies in the West Indies. In this condition of our navigation and trade, our tonnage continues annually to increase, and the value of our exports exceeds that of our imports.

In countries of great extent, and whose productions are various, though the people are generally employed in similar occupations, new regulations may, for a time, affect some portions of the country more than others; but every portion soon accommodates itself to the new regulation, and the advantages and disadvantages are in a short time certain to be equalized by the entire freedom with which every branch

of industry is prosecuted.

It was on account of this diversity of products, and of the different manner of doing business in the several States, that jealousies formerly existed between them, which defeated every attempt to establish any common regulation of trade under the confederation. The want of American tonnage sufficient to create the requisite competition in the exports of the country added to the difficulties of this period.

But as the national tonnage is now fully sufficient for the national exports, and as Congress have offered to all nations a system of entire equality and freedom in the commercial intercourse between them and the United States, the time has come in which it has been thought to be due to the welfare and character of the United States to countervail the regulations which so long, and so much to our disadvantage, have been imposed by England on the trade and navigation between the United States and her West India colonies.

This national measure, so long called for to protect the ships and seamen of the United States, was calculated to awaken the remnant of local jealousy that may still exist among us, against the influence of which we may with confidence appeal to the character and necessity of the law.

By the exclusion of English vessels American vessels are employed in their place, and whatever is lost by the former is gained by the latter. By revoking the countervailing laws we take away the profits now enjoyed by American vessels, and give them back again to the vessels of England, and in doing so grant a bounty to foreign ships

at the expense of our own.

Navigation and maritime industry, for a peculiar reason, call for national protection, for the art of navigation is an expedient of war as well as of commerce, and in this respect differs from every other branch of industry. Though it was once doubted, doubt no longer exists, that a navy is the best defense of the United States, and this maxim is not more true than that a naval power never has existed, and can never exist, without a commercial marine, hence the policy of encouraging and protecting the ships and seamen of the United States.

In the commercial differences which arise between nations the various branches of industry are differently affected, and calculations founded on the supposed interest of either party being often fallacious, may prove to be uncertain guides in the policy of nations, while, by referring every question of disagreement to the honor of the nation, in the purity and preservation of which everyone is alike concerned, a standard is provided that can never mislead.

In the least, as well as the most difficult, disputes national honor is the safest counselor, and it should not be forgotten that public injuries long endured invite further aggression, and in the end

degrade and destroy the pride and safety of nations.

In respect to the commercial difference which has so long existed between the United States and England, the claim of the latter exclusively to regulate the intercourse and navigation between the United States and her West India colonies has affected the reputation and rights of the United States, and the public honor justifies the countervailing measures adopted on this subject. To recede from the same would be equivalent to their final relinquishment, and would not fail to encourage the belief that a wrong so long endured would no longer be opposed, and that further aggression might be made without resistance.

It must be always remembered that the countervailing measures which have been adopted by Congress are entirely defensive, and as we desire to concur in the establishment of a free trade with every nation, we are ready to abandon the restrictions on the English navigation as soon as England manifests a disposition to give up the restrictions which she was the first to impose on our navigation. And does public policy require, or will the national honor permit, that we should do so sooner? With these views the committee submit the following resolution:

Resolved, That the Committee on Foreign Relations be discharged from the further consideration of the petition of R. Appleby and others, of Colleton district, South Carolina, and of the resolutions of the Chamber of Commerce of Baltimore, praying for the repeal of the laws imposing restrictions on English vessels employed in the trade between the United States and the English colonies in the West Indies,

TWENTY-FIFTH CONGRESS, SECOND SESSION.

March 8, 1838.

On conference on act supplementary to an act entitled "An act in addition to the act for the punishment of certain crimes against the United States, and to repeal the acts therein mentioned," Mr. Buchan-

nan reported as follows:

That they have agreed to recommend for the adoption of their respective Houses the amendment proposed by the Senate to the second section of the said bill, with the following amendment, to wit: Insert after the word "whatsoever" the following words: "or with any other trade;" so as to make the provision read as follows: "Provided, That nothing in this act contained shall be construed to extend to or interfere with any trade in arms or munitions of war, conducted in vessels by sea, with any foreign port or place whatsoever, or with any other trade which might have been lawfully earried on, before the passage of this act, under the law of nations and the provisions of the act hereby amended."

(Leg. Jour., p. 277.)

THIRTY-FIRST CONGRESS, FIRST SESSION.

June 13, 1850.

On report from Secretary of State as to conduct of Japanese Government toward wrecked American seamen, capabilities of oriental nations for commerce with United States, and proper observance of

treaty of 1833 with Siam, Mr. Foote reported as follows:

Resolved, That Mr. Palmer have leave to withdraw, take out a copyright for, and print on his own account the documents entitled "A Comprehensive View of the Principal Independent Maritime Countries of the East," which accompanied the report of the Secretary of State to the Senate, under date of the 23d April last, and referred to the Committee on Foreign Relations, and that the Secretary of the Senate be, and he is hereby, authorized to subscribe for —— copies of the work under the above title, for the use of the Senate, provided the same shall be delivered by Mr. Palmer at a price not exceeding, per copy, the rate for printing, lithographing, and binding public documents for the Senate in 1819, with 20 per cent discount.

(Leg. Jour., p. 394.)

FIFTIETH CONGRESS, FIRST SESSION.

June 20, 1888.

[Senate Report No. 1629.]

Mr. Edmunds, from the Committee on Foreign Relations, submitted

the following report:

The Committee on Foreign Relations, to which was referred Senate bill 2544, "authorizing and directing the President of the United States to make proclamation prohibiting the importation of products of foreign States in certain cases, and for other purposes," respectfully reports:

That the powers named in the bill and proposed to be conferred upon the President of the United States in respect of unjust discriminations by foreign countries against the importation and sale therein of products of the United States are, as the committee thinks, completely covered and embraced in section 5 of Senate bill 535, "providing for an inspection of meats for exportation, prohibiting the importation of adulterated articles of food or drink, and authorizing the President to make proclamation in certain cases, and for other purposes," which bill passed the Senate on the 21st March, 1888, and is now pending in the House of Representatives. The committee is, therefore, of opinion that it is unnecessary for the Senate to act further upon the subject until some action shall have been taken by the House of Representatives on the bill which has already passed this body.

All of which is respectfully submitted.

August 22, 1888.

[Senate Report No. 2083.]

Mr. Sherman, from the Committee on Foreign Relations, submitted the following report:

The Committee on Foreign Relations, to which was referred the

resolution of the Senate of March 9, 1888, begs leave to report:

That it has been proceeding in the execution of the duties imposed upon it and has accumulated a considerable mass of information, a large part of which was compiled by Henry V. Poor; that the Senate having since committed the same subject to a select committee, this committee asks that it may be discharged from the further execution of the aforesaid order of the Senate, and it returns with this report the documents and papers referred to.

FIFTY-THIRD CONGRESS, SECOND SESSION.

May 17, 1894.

[Senate Report No. 410.]

Mr. Turpie, from the Committee on Foreign Relations, submitted

the following report:

Two memorials were referred to this committee upon the 14th of August, 1893, in regard to the traffic in firearms and intoxicants with the natives of the islands of New Hebrides by Europeans and Americans, concerning which, after due consideration thereof, the committee beg leave to submit the following report:

The New Hebrides are a group of islands in the South Pacific Ocean situated about 200 miles northeast of New Caledonia, well known as

the site of the French penal colony in those waters.

The group consists of quite a number of islands, 16 or 18 of which are of considerable size. The native population is estimated at the number of 180,000. The area of the habitable islands is about 5,700 square miles.

The natives are a mixed race of the Milanesian and negro Papuan tribes, living for the most part in a wild and uncivilized condition.

This condition has not changed much even during the one hundred and fifty years that they have been in contact with the commerce and civilization of the outer world. The only exception to this is found in the Christian native settlements, the colonies of the missionaries, where the converted natives are spoken of as leading a life of quiet industry and sobriety, and as steadily advancing in the arts and habits of civilization. The native Christian population is said to number

8,000 souls.

The labor of the missionaries in the conversion and improvement of the native population during later years is making quite substantial progress. It is charged, however, in the petition and resolutions laid before the committee that this beneficent work has been, and now is, much hindered and retarded by the sale to the natives by foreigners of intoxicating liquors and firearms, and it is alleged also in said papers "that much of this traffic is carried on by this country," the United States. The white permanent settlements upon these islands are French and English. They are only visited by the people of the United States for commercial objects, except those of our citizens who have gone thither as teachers and missionaries.

The natives of these islands have no regular system of government. They are under the rule of independent native chiefs. There seems to be no general authority, either legislative or executive, which all acknowledge. They have, nevertheless, an autonomy, but it is so disintegrated, separate, and divided in its functions as to be somewhat obscure, undefined, presenting great difficulties in the way of treaty or negotiation with the whole people. The French and English Governments have both heretofore on different occasions found or deemed it necessary to interfere by military or naval force to protect the lives and property of their respective subjects living upon the islands.

The French Government in 1887 took formal possession of some of the islands by landing a military force thereon, but this action was remonstrated against by Great Britain in such terms that the occupation was declared to be only for a limited time and purpose. A convention for a joint naval commission was signed on November 16, 1887, and the French agreed to evacuate the islands within four months from that date. On January 26, 1888, the English and French representatives signed at Paris a declaration defining the functions and powers of the Anglo-French naval commission and establishing regulations for its guidance. The commission consists of a president and two British and two French naval officers. It is charged with the maintenance of order and the protection of the lives and the property of British and French citizens in the New Hebrides.

The presidency of the commission is to be held in alternate months by the commanders in chief of the British and French naval forces present in the group. The regulations provide that in the event of a disturbance of peace and good order in any part of the New Hebrides where British or French subjects are found, or in the event of danger manacing their lives or property, the commission shall forthwith meet and take measures for repressing disturbance or protecting the interests endangered, not resorting to military force unless its employment is considered indispensable. If a military or naval force lands it must not remain longer than is deemed necessary by the commission. In a sudden emergency the British or French naval commanders nearest the scene of action may take measures for the protection of persons or property of either nationality, in concert, if possible, or separately when only one force is near the disturbed locality, but they must at

once report to their senior officers, who shall communicate the report to each other and immediately summon the commission.

The commission has no power to interfere in disputes concerning titles to land, or to dispossess either natives or foreigners of lands that they hold in possession, but it is charged with the police duties of stopping the slave trade with the Kanakas and of preventing acts of piracy. The last of the French troops left the New Hebrides on March 15, 1888. This international convention between the two powers had been preceded by and accompanied with quite prolonged negotiations between them as to the subject of the prohibition of the sale of intoxicants and firearms to the natives of the New Hebridean islands.

It appears from our report upon foreign relations for 1892-93 that these negotiations had been submitted, or at least communicated, to our Department of State. Secretary Foster, in a letter of date November 18, 1892, tendered the assistance and good offices of this Government in aid of this movement. On the 4th day of July, 1892, the British Government, through its legation at Washington, had submitted a draft of a proposed international agreement to be entered into by the principal powers concerning this traffic. (F. R., 1892, p. 287.) On the 11th of October, 1892, Mr. Foster, our Secretary of State, sent an official dispatch to the minister of Great Britain, in which he assured

That this Government looks with favor upon any humanitarian work, and would like further information as to the scope and form of the proposed agreement.

But at the same time Secretary Foster also said:

While the sentiments and convictions of this Government indorse restrictions of deleterious commerce with the native Pacific islanders, the method of giving expression thereto is necessarily influenced by the disparity of policy and interests between the United States and the great European States in the Pacific Ocean.

The Secretary at the same time intimates that when such method of expression has been generally acquiesced in by the powers more immediately interested the United States may become a party thereto. Here, so far as the record at present shows, negotiations paused.

Under these circumstances and conditions your committee cordially indorses the offer of this Government to cooperate with other powers in prohibiting this traffic with the natives of the New Hebrides.

In the present autonomous but somewhat irregular political status of the native system of government, it is obvious that only external treaty regulations will avail to prevent this traffic and that such regulations must be joint and cooperative in their methods to be effective.

The committee, therefore, are of the opinion that the kindly offices of this Government should be continuously tendered in aid of such cooperation until an international agreement be concluded which shall finally prevent and prohibit this traffic, so destructive to the moral and physical well-being of the natives of the New Hebrides; and with the hope that this may at an early day be accomplished, we ask that we may be discharged from present further consideration of the petition and resolutions. And the committee do now present the accompanying resolution on this subject to the Senate and request favorable consideration thereof, and do recommend its adoption.



TARIFF RESTRICTIONS.



TARIFF RESTRICTIONS.

FORTY-EIGHTH CONGRESS, FIRST SESSION.

March 19, 1884.

Mr. Miller of California, from the Committee on Foreign Relations,

submitted the following report:

The Committee on Foreign Relations, to which was referred the resolution of the Senate of January 22, 1884, the first clause of which is as follows—

Resolved, That the Committee on Foreign Relations be instructed to inquire into and report to the Senate such legislation as shall protect our interests against those governments which have prohibited or restrained the importation of meats from the United States—

has considered the foregoing, and begs leave to report herewith a bill which, in the opinion of the committee, contains the legislation necessary for the protection of the interests of the people of the United States in the matter embraced in that part of the resolution above quoted.

The facts and data upon which the committee has based its conclusions, as expressed in this bill, are for the greater part included in the three documents appended hereto and made a part of this report, viz:

First. House Executive Document No. 70, Forty-eighth Congress, first session, being a communication from the Secretary of State relative to the restrictions upon the importation of American hog products into Germany and France.

Second. House Executive Document No. 106, Forty-eighth Congress, first session, being the report of the commission appointed by the President "to examine into the swine industry of the United States and into the allegations as to the healthfulness of the pork products."

Third. Report of the Chief of the Bureau of Statistics to the Treasury Department of February 12, 1884, "on the production of swine in the United States, and the interdiction of American hog products from

France and Germany," etc.

Appended hereto is also a copy of a dispatch from the American minister at Paris to the honorable Secretary of State, dated February 8, 1884, transmitting a copy of the answers made by the French Academy of Medicine to the questions propounded by the French minister of commerce on the subject of the importation of foreign meats, which show that the academy voted, with but one dissentient voice, that "the importation of foreign salt pork may be fearlessly authorized by the French Government, as it is clearly proved that no danger to public health has been caused by such importation."

The investigation which the committee has been able to make of this subject results in establishing to the satisfaction of the committee, among others, two important propositions or matters of fact.

First. That trichinæ do exist to a limited extent in swine throughout all swine-producing countries, and in the United States as well as others, but to a less degree than in Germany or France. The evidence shows that about 2 per cent of American pork is infected by trichinæ.

Second. That the curing process of pork by salt destroys trichinæ to such a degree that pork thoroughly salted and permitted to remain

long enough to become saturated with the salt, although infested with

trichinæ, is innoxious.

Without entering upon an argument in respect to the propriety or inexpediency of a policy of retaliation as to those governments which have discriminated or may hereafter discriminate without just reason against any class of American productions, the committee propose to briefly state the propositions of the bill.

First. It is proposed to institute at the principal ports of the United States a system of inspection of salted pork intended for exportation, and exported within sixty days next after the date upon which the same may have been salted and packed, so that the fact of the innoxious and wholesome character of the article shall be established by the best, highest, and most reliable proof.

Second. The President is to be authorized at his discretion to exclude from the United States, by proclamation, any product of any foreign state which, by unjust discrimination, prohibits the importation into

such foreign state of any product of the United States.

Third. The importation into the United States of any adulterated or unwholesome food, or vinous, spirituous, or malt liquors, adulterated or mixed with any poisonous or noxious chemical, drug, or other ingredient injurious to health, is by the bill prohibited under proper penalties.

Fourth. The President is to be authorized, by proclamation, at his discretion, to suspend the importation of articles so adulterated from any country for such period of time as may be deemed sufficient to prevent the practice of such adulteration of articles intended for importation into the United States.

These are the measures which the committee deem necessary and adequate as a remedy for the evils comprehended in that part of the

resolution which has been considered.

It is the intention of the committee to consider the second branch of the resolution and make report as early as practicable.

[Forty-eighth Congress, first session, House Ex. Doc. No. 70.]

IMPORTATION OF AMERICAN HOG PRODUCTS INTO GERMANY AND FRANCE.

[Message from the President of the United States, transmitting a communication from the Secretary of State relative to the restrictions upon the importation of American hog products into Germany and France.]

To the House of Representatives of the United States:

I transmit herewith, in response to the resolutions of the House of Representatives, the following report from the Secretary of State, with accompanying papers, relative to the restrictions upon the importation of American hog products into Germany and France.

CHESTER A. ARTHUR.

EXECUTIVE MANSION, January 31, 1884.

To the PRESIDENT:

There have been referred to the undersigned, for appropriate action thereon,

the two following resolutions of the House of Representatives:

"Resolved, That the President be, and he is hereby, requested to furnish for the information of this House, if not incompatible with the public service, all communications, documents, and papers in his possession relating to the exclusion of and restrictions upon the importation of American hog products into Germany and France.

"Whereas Germany and certain other foreign governments have interdicted the importation of the swine products of this country for the pretended reason

that said products are not proper and wholesome for food; and

"Whereas an invitation on the part of this Government to said foreign governments to send agents here to test said products has been declined, thus indicating that the pretended reasons given for such interdiction are not real reasons; and Whereas it is the duty of this Government to act promptly and with energy to resent the injustice done by said charges and to protect these great products from said imputation: Therefore,

"Resolved, That the President of the United States is hereby requested to trans-

mit to this House, if, in his opinion, it be not incompatible with the public interests, copies of any and all correspondence had by the State Department with all foreign governments on this subject, together with any and all information that he may have bearing upon this question."

Regarding these two resolutions, jointly, as embodying the wish of the popular branch of Congress to be possessed of whatever may throw light upon the measures adopted by foreign governments to the detriment of an important branch of the export trade of the United States, and also of all that may tend toward a just and effective remedy for such detrimental measures, the undersigned has endeavored to cover the whole ground embraced by both resolutions, by collecting and submitting to the President, herewith, copies of all pertinent matter found of record in the Department of State, to the end that it, or so much of it as the President may deem proper, may be communicated to the House of Representatives in response to its requests; and in so doing the undersigned avails of the occasion to submit to the President, as briefly as possible, such considerations drawn from a general review of the action of this Government hitherto in the premises as seem to him appropriate to the understanding of the general subject in its international

The action of the leading governments of Europe took shape between 1879 and

1881, and was practically simultaneous in several countries.

On the ground of the alleged frequent discovery of trichinæ in hog's meat coming from Cincinnati into Italy, the sanitary department of that Government issued an order on the 20th of February, 1879, prohibiting all pork imports of whatever character from the United States—a prohibition which was soon afterward. May 6, 1879, made general against all foreign pork. About September, 1879, the Hungarian council general of public health caused a like prohibition in Hungary. Dr. Ludwig von Grosse, at the International Medical Congress of Amsterdam, in September, 1879, announced that the prevalence of trichinæ in pork products from America had led to consultation between the Austrian and Hungarian Governments, with a view to making the prohibition adopted in Hungary universal throughout the Austro-Hungarian Empire, which, however, was not accomplished until more than a year afterward. By an imperial decree of June 25, 1880, Germany prohibited the importation of chopped pork and sausages (but not of hams or bacon) from America. The French Government, as the result of the alleged discovery of trichinæ in some salt pork from America, issued a decree on the 18th of February, 1881, upon the advice of the consultative committee of public health, forbidding the importation of salt pork coming from the United States. This action on the part of France was followed by several other States of This action on the part of France was followed by several other States of Europe, and Turkey and Greece excluded the pork products of the United States, professedly in pursuance of the French example. The consideration of the same measure in Austria-Hungary, pending since 1879, was closed by the promulgation, March 10, 1881, of a decree prohibiting the importation of swine meat, lard, and sausages of every kind from the United States.

Efforts were made, for professed sanitary reasons, to effect like prohibitory enactments in Belgium and Switzerland during the same time, but those Governments, holding rightly that no danger from trichinæ attended the consumption of

properly cooked hog products, abstained from the interdiction sought.

Meanwhile in England popular excitement arose in the early part of 1880, caused by the publication of reports by several British consular officers in the United States alleging the prevalence of hog cholera in the West to an unusual and alarming degree, and imports of live swine and swine products to the British Islands were checked for a time, but no prohibitory legislation ensued.

Apparently confined at first to scientific and hygienic considerations, the movement soon took, in the great European countries, an interested commercial aspect. The Governments of France, Germany, and Austria seem to have become subjected to pressure from adverse quarters. On the one hand, there became manifest a general tendency among men of science and practical economists to condemn the prohibition as unwise and needless. On the other, the local hog raisers and packers raised objection to the admission of a foreign product which, from its nature and manner of packing, they alleged could not be subjected, before entering into public consumption, to the same methods of investigation which legislation had prescribed for native swine products. Thus the question debated in the press and legislatures of France and Germany looked to determining whether the importation of pork products from the United States was or was not, in fact, a source of danger to the public health.

It now seemed no less the duty of the Government of the United States to investigate the question. A great industry, giving a prosperous export trade had been declared pernicious to health and its products debarred from use abroad. The same considerations of public health which operated to bring about total prohibition abroad made it necessary that the alleged perniciousness should be no less

searchingly investigated at home.

As a preliminary step the Department of State, in March, 1881, prosecuted an examination of the various phases of the pork industry in the Western States, from the raising of the hogs until their varied products are ready for marketable shipment. This investigation, made by Mr. Michael Scanlan, Chief of the Bureau of Statistics of the Department of State, covered all the possible causes which might operate to render the product dangerous to health. It embraced the diseases of swine, hog cholera receiving especial attention. The alleged prevalence of trichine among the swine of this country was rigidly inquired into. The results of that investigation appeared to the Department of State conclusive as to the healthfulness of a staple product consumed without evil consequences by millions of our own citizens. Not only were the asserted ravages of hog-cholera disproved, but it was shown that unusual precautions had been universally taken to insure that none but the health est animals should be slaughtered for packing. It was shown, moreover, that the existence of trichine in the hog, although detected by proper tests in sundry cases, was not as widespread as among the swine of other countries: and that a much greater immunity from trichinosis existed throughout the great pork-consuming communities of the West than in the rural districts of central Europe, where none but native pork products entered into consumption.

The facts thus elicited warranted and constrained the Department of State to represent to the foreign governments that the prejudicial judgment against the swine export of this country was ex parte and unfounded. How diligently the agents of this Department abroad have endeavored to overcome this adverse prejudgment is shown in the correspondence communicated herewith. The result has hitherto not been of such a character as this Government felt it had good right

to expect.

In France the discussion has passed through several phases. The French Government showed an earnest desire to meet the problem in a just sense. Ministers, legislators, and the most eminent men of science there united in declaring their conviction that the use of American pork, in any of its exported forms, whether as fresh meat or prepared for keeping, was absolutely innocuous to hea th. Not a single case of trichinosis traceable to American pork had been observed in France for many years. It was demonstrated that cooking destroyed the communicable forms of the parasite in the rare cases where it was detected. Science asserted that even the low temperature of 158 F. sufficed to kill the triching. the difficulty seems to have lain in applying to imported pork the same examination which sanitary regulations provided for the native product. Various schemes of microscopic inspection on entry were devised, for the most part admittedly partial and fallacious, and all, according to the best judgment of this Government, needless and serving only to impede a traffic which had been shown to be harmless. At length, in November last, the Government repealed the prohibition. The immediate consequence was the renewed egitation of the quartonian The immediate consequence was the renewed agitation of the question in the French Chambers and a very decisive vote against the removal of the prohibition. The Government of the Republic has therefore, with evident reluctance, been compelled to rescind its recent action, and after a sufficient interval to admit of shipments which had been made on the faith of the revocation of November, the interdiction is restored from the 20th instant. The correspondence herewith submitted will enable Congress to judge impartially the course of the matter in France.

In Austria-Hungary and Italy the prohibition has been maintained. With Germany the representations of this Government took a different and to some extent an unusual direction. When, in February last, notwithstanding the proofs adduced to show that the restriction of pork imports into the Empire was not warranted by any state of facts known to prevail in the United States, but was rather at variance with the ascertained facts here, it was announced that the Imperial Government was about to submit to the Reichstag measures of total exclusion. Reasoning that the emergency justified any and every mode of appeal to the sense

of justice and equity of the German Government against a measure believed to be no less injurious to the interests of the German people than to our export trade, the President directed that the Imperial Government should be informed of his intention to appoint an impartial and competent commission to investigate the asserted danger of American pork products to health, with a view to ascertaining and promulgating the exact facts in relation thereto, and that it should be invited to send one or more experts hither to make such investigation, either separately or jointly with a United States commission. The invitation was declined, the reason briefly being that in a matter concerning domestic sanitary legislation the German Government could not enter into any arrangement which might imply an obligation on its part to accept and be bound by a state of facts existing outside of its jurisdiction.

The President has since appointed the commission then contemplated. It is composed of a representative of the New York Chamber of Commerce, Prof. Charles F. Chandler; a representative of the Chicago Board of Trade, Mr. E. W. Blatchford: two members nominated by the Commissioner of Agriculture, Mr. F. D. Curtis, of Charleston, N. Y., and Prof. D. E. Salmon, the whole under the chairmanship of the Commissioner of Agriculture. In point of scientific competence and elevated impartiality the formation of the commission peculiarly fits it for the execution of its responsible task. To it should belong in great measure the shaping of the policy of this Government toward the pork question in its domestic

or foreign aspects.

In view, therefore, of the prominent part which the results reached by the pork commission must necessarily play in the further treatment of the question by the Executive or by Congress, the undersigned feels it incumbent upon him to advise that the President recommend Congress to abstain from any immediate legislative action until the report of the commission, soon to be presented, shall be before it.

In advance of such report, and, indeed, without any knowledge of its probable import or intimation of the suggestions it may offer, the undersigned deems it his duty to lay before the President certain considerations prompted by the language

of the resolutions to which he now responds.

The preamble to the second resolution above quoted indicates that Congress may feel impelled to take measures to resent the injustice which may be shown to have been done by the groundless charge that the swine products of this country are

not proper and wholesome for food.

The President will see by the instructions of the undersigned to Mr. Sargent, of February 16, 1883, that there has been and is no disposition on the part of the Executive Departments of this Government to prevent or to remonstrate against or in any way to interfere with the right of the German Empire to exclude food the use of which would be deleterious to the people. The question to be carefully, frankly, and honestly met is whether the prepared meat products exported from this country are injurious to public health. We believe they are not, and have so represented it. On the contrary, all the facts which laborious and searching investigations have hitherto laid before us constrain the belief that such products are promotive of the public health in those countries into which they are imported. Diligent inquiry has been made, as the correspondence shows, to trace out the cause of the sickness imputed to the use of imported meats, and such investigations show, we think, that it is in no case attributable to the pork exported from this country.

Should it appear that the meat products of this country are, as we believe them to be, not deleterious, but promotive of health, it is believed that those friendly nations which have put forth decrees inhibiting the importation of our meats would annul those decrees. The undersigned is aware that doubtless in those countries there are producers of meats who would be glad of the continuance of such inhibition, because they would profit by avoiding the competition which our exports create, but he has no belief that they can or would have any controlling influence on the Governments of those countries. If, however, in the face of clear proof, elicited both at home and abroad, that our meat products are free from disease or communicable germs of disease—proof which might be established to demonstration by actual inspection, as well as supported by a knowledge of the precautions which surround the raising and packing industries here—any nations with which we are on terms of intimacy and amity should, by legislation, discriminate against the trade of this country rather than protect the health of their people, it would then be the province of the Executive to call the attention of such nations to the provisions of treaties, with the confident expectation that those treaties would be respected.

The President, in his message, recommended that in certain cases, such as when a foreign nation, by onerous storage charges, exorbitant penalties, differential duties in favor of a competing flag, or by the misuse of some other incident of

commerce, discriminated against the United States, there might, by legislation analogous to sections 2502 and 4228 of the Revised Statutes, be vested in the President power to adopt, at his discretion, measures compensating for and countervailing such misuse of the incidents of commerce. It may be inferred from this that the suggestion extends to measures relating to the substance of commerce and affecting our commercial relations with other nations.

It is submitted to the President that such measures are of an importance much greater than the administration of the incidents alluded to, and it would therefore seem to be proper that they receive the direct consideration and determination of Congress rather than that the subject should be disposed of by a reference to the

Executive.

It seems, however, very plain that our policy in any event should be to prove that our meat products are wholesome. This the absence of trichinosis in this country, and particularly in our Army and Navy, where our meats are constantly used, goes far to demonstrate. Measures, however, might be taken to ascertain to an absolute certainty, by such means as a commission of scientists would devise,

that our meats are or can be rendered innocuous.

With these observations the undersigned commits to the President the subjoined correspondence. Taken in connection with the former correspondence communicated to the House of Representatives on the 26th of May, 1882, in answer to a resolution thereof (House Ex. Doc. No. 209, Forty-seventh Congress, first session). it is believed that it presents a connected view of the efforts of this Government to impress upon other countries the conviction it holds that the pork products of this country are not the means of disseminating disease and death they are represented to be, and to maintain the discussion of the international questions involved on the plane of disproving by fact and reason the sanitary argument put forth to justify the exclusion of those products from use as food in foreign lands.

Respectfully submitted.

FREDK. T. FRELINGHUYSEN.

DEPARTMENT OF STATE, Washington, January 31, 1884.

LIST OF ACCOMPANYING PAPERS.

Austria.

No. 1.—Mr. Taft to Mr. Frelinghuysen, No. 26, November 28, 1882, with an . accompaniment.

No. 2.—Mr. Davis to Mr. Taft, No. 22, January 19, 1883. No. 3.-Mr. Davis to Mr. Weaver, No. 102, January 26, 1883.

Belgium.

No. 4.—Mr. Steuart to Mr. Davis, No. 105. November 20, 1882. No. 5.—Mr. Wilson to Mr. Davis, No. 22, February 24, 1883. No. 6.—Mr. Steuart to Mr. Davis, No. 116, April 12, 1883.

Denmark.

No. 7.—Mr. Ryder to Mr. Davis, No. 206, April 5, 1883. No. 8.-Mr. Ryder to Mr. Frelinghuysen, No. 15, April 28, 1883.

France.

No. 9.—Mr. Morton to Mr. Frelinghuysen, January 17, 1882. (Telegram.) No. 10.—Mr. Morton to Mr. Frelinghuysen, No. 107, January 20, 1883, with an accompaniment.

No. 11.—Mr. Davis to Mr. Morton, No. 96, February 10, 1882.

No. 12.—Mr. Morton to Mr. Frelinghuysen, No. 130, February 28, with accompaniments.

No. 13.—Same to same, No. 138, March 17, 1882, with accompaniments.

No. 14.—Same to same, March 20, 1882. (Telegram.)

No. 15.—Mr. Frelinghuysen to Mr. Morton, March 22, 1882. (Telegram.) No. 16.—Mr. Morton to Mr. Frelinghuysen, March 28, 1882. (Telegram.) No. 17.—Same to same, March 29, 1882. (Telegram.) No. 18.—Same to same, No. 146, March 31, 1882, with an accompaniment,

No. 19.—Mr. Frelinghuysen to Mr. Morton, No. 129, May 10, 1882, No. 20.—Mr. Morton to Mr. Frelinghuysen, No. 191, June 27, 1882.

No. 21.—Mr. Frelinghuysen to Mr. Morton, No. 152, July 28, 1882.

No. 22.-Mr. Wilson to Mr. Davis, No. 12, December 4, 1882, with accompani-

No. 23.—Mr. Frelinghuysen to Mr. Morton, No. 207, January 17, 1883. No. 24.—Mr. Morton to Mr. Frelinghuysen, No. 324, April 4, 1883, with an accom-

No. 25.—Mr. Roosevelt to Mr. Davis, No. 99, April 11, 1883, with an accompaniment.

No. 26.—Mr. Morton to Mr. Frelinghuysen, No. 333, April 13, 1883, with an accompaniment.

No. 27.—Mr. Frelinghuysen to Mr. Morton, No. 267, April 26, 1883.

No. 28.—Mr. Wilson to Mr. Davis, No. 24, May 17, 1883, with an accompani-

No. 29.—Mr. Frelinghuysen to Mr. Morton, No. 294, June 22, 1883.

No. 30.—Mr. Brulatour to Mr. Frelinghuysen, No. 371, July 17, 1883.

No. 31.—Mr. Davis to Mr. Brulatour, No. 327, August 28, 1883.

No. 32.—Mr. Roosevelt to Mr. Davis, No. 126, September 26, 1883, with an

accompaniment No. 33.—Mr. Frelinghuysen to Mr. Morton, No. 364, October 9, 1883.

No. 34.—Mr. Glover to Mr. Davis, No. 51, October 15, 1883, with an accompani-

No. 35.—Mr. Wilson to Mr. Davis, No. 30. October 20, 1883, with an accompaniment.

No. 36.—Mr. Morton to Mr. Frelinghuysen, No. 425, October 21, 1883, with an accompaniment.

No. 37.—Mr. Glover to Mr. Davis, No. 252, October 22, 1883.

No. 38.—Mr. Frelinghuysen to Mr. Morton, October 31, 1883. (Telegram.)

No. 39.—Same to same, No. 379, November 13, 1883. No. 40.—Mr. Morton to Mr. Frelinghuysen, No. 445, November 15, 1883.

No. 41.—Same to same, November 27, 1883. (Telegram.)
No. 42.—Same to same, No. 452, November 29, 1883, with accompaniments. No. 43.—Mr. Frelinghuysen to Mr. Morton, No. 393, December 7, 1883.

No. 45.—Mr. Morton to Mr. Frelinghuysen, December 19, 1883.

No. 45.—Mr. Morton to Mr. Frelinghuysen, December 24, 1883.

(Tele No. 46.—Same to same, No. 464, December 26, 1883.

No. 47.—Mr. Frelinghuysen to Mr. Morton, December 27, 1883.

(Tele

(Telegram.)

(Telegram.) No. 48.-Mr. Morton to Mr. Frelinghuysen, December 28, 1383. (Telegram.)

No. 49.—Same to same, December 28, 1883. (Telegram.) (Telegram. No. 50.—Same to same. December 29, 1883.

No. 51.—Mr. Frelinghuysen to Mr. Morton, December 29, 1883. (Telegram.) No. 52.—Mr. Roustan to Mr. Frelinghuysen, January 2, 1884.

No. 53.—Mr. Frelinghuysen to Mr. Morton, January 2, 1884. (Telegram.) No. 54.—Same to same, No. 413, January 2, 1884. No. 55.—Same to same, No. 414, January 2, 1884. No. 56.—Mr. Morton to Mr. Frelinghuysen, No. 466, January 3, 1884, with an accompaniment.

Germany.

No. 57.—Mr. Davis to Mr. Everett. No. 301, February 8, 1882, with an accompaniment.

No. 58.-Mr. Everett to Mr. Frelinghuysen, No. 298, February 23, 1882.

No. 59.—Same to same, No. 308, March 27, 1882, with accompaniments. No. 60.—Mr. Brewer to Mr. Davis, No. 23, March 30, 1882.

No. 61. - Mr. Sargent to Mr. Frelinghuysen. No. 74, November 6, 1882, with accompaniments.

No. 62.—Same to same, No. 77, November 13, 1882, with an accompaniment.

No. 63.—Mr. Bailey to Mr. Davis, No. 86, November 20, 1882.

No. 64.—Mr. Frelinghuysen to Mr. Sargent, No. 66, November 28, 1882.

No. 65.—Mr. Sargent to Mr. Frelinghuysen, No. 85, December 11, 1882, with an accompaniment.

No. 66.—Same to same, No. 87, December 18, 1882.

No. 67.—Same to same, No. 90, January 1, 1883. No. 68.—Mr. Wamer to Mr. Davis, No. 31, January 10, 1883. No. 69.—Mr. Frelinghuysen to Mr. Sargent, No. 74, January 12, 1883. No. 70. -Mr. Sargent to Mr. Frelinghuysen, No. 96, January 13, 1883.

S. Doc. 231, pt 4——35

No. 71.—Mr. Fox to Mr. Davis, No. 192, January 15, 1883, with an accompani-

No. 72.—Mr. Wamer to Mr. Davis, No. 32, January 22, 1883, with an accompaniment.

No. 73.—Mr. Frelinghuysen to Mr. Sargent, February 15, 1883. (Telegram.)

No. 74.—Same to same, No. 87, February 16, 1883, with an accompaniment. No. 75.—Mr. Sargent to Mr. Frelinghuysen. No. 109, February 17, 1883.

No. 76.—Same to same. No. 111, February 21, 1883, with an accompaniment. No. 77.—Mr. Frelinghuysen to Mr. Sargent. No. 88, February 21, 1883. No. 78.—Mr. Vogeler to Mr. Davis, No. 77, March 3, 1883, with an accompani-

ment. No. 79.—Mr. Sargent to Mr. Frelinghuysen, March 8, 1883. (Telegram.)

No. 80.—Same to same, March 14, 1883. (Telegram.)

No. 81.-Mr. Frelinghuysen to Mr. Sargent, No. 98, March 14, 1883, with an accompaniment.

No. 82.—Same to same, No. 99, March 14, 1883.

No. 83.—Mr. Sargent to Mr. Frelinghuysen, No. 121, March 15, 1883.

No. 84.—Same to same, No. 122, March 19, 1883. with accompaniments.

No. 85.—Mr. Bailey to Mr. Davis, No. 103, April 7, with an accompaniment.

No. 86.—Mr. Frelinghuysen to Mr. Sargent, No. 108, April 11, 1883.

No. 87.—Mr. Sargent to Mr. Frelinghuysen, No. 135, April 18, 1883, with accom-

paniments.

No. 88.—Same to same, No. 137, April 13, 1883.

No. 89.—Same to same, No. 145, April 28, 1883, with an accompaniment.

No. 90.—Mr. Eisendecher to Mr. Frelinghuysen, May 2, 1883. No. 91.—Mr. Frelinghuysen to Mr. Sargent, No. 116, May 4, 1883. No. 92.—Mr. Sargent to Mr. Frelinghuysen, No. 146, May 4, 1883, with an accompaniment.

No. 93.—Same to same, No. 147, May 5, 1883.

No. 94.—Same to same, No. 155, May 19, 1883, with an accompaniment.

No. 95.—Same to same, No. 157, May 21, 1883.

No. 96.—Mr. Davis to Mr. Sargent, No. 119, May 23, 1883.

No. 97.—Mr. Frelinghuysen to Mr. Sargent, No. 141, July 25, 1883.

No. 98.—Mr. Eisendecher to Mr. Frelinghuysen, July 27, 1883.

No. 99.-Mr. Frelinghuysen to Mr. Sargent, No. 156, October 9, 1883. No. 100.-Mr. Sargent to Mr. Frelinghuysen, No. 201, October 15, 1883.

No. 101.—Mr. Smith to Mr. Davis. No. 104, October 17, 1883. No. 102.—Mr. Frelinghuysen to Mr. Sargent. October 20, 1883. (Telegram.) No. 103.—Mr. Sargent to Mr. Frelinghuysen, No. 204, October 20, 1883, with an accompaniment.

No. 104.—Same to same, No. 205, October 22, 1883, with an accompaniment. No. 105.—Same to same, No. 208, October 26, 1883, with an accompaniment. No. 106.—Same to same, No. 213, November 5, 1883.

No. 107.—Same to same, No. 214, November 12, 1883.

No. 108.—Mr. Frelinghuysen to Mr. Sargent, No. 169, November 27, 1883.

No. 109.—Mr. Sargent to Mr. Frelinghuysen, No. 218, December 1, 1883, with accompaniments.

No. 110.-Mr. Frelinghuysen to Mr. Sargent, No. 177, December 26, 1883.

Greece.

No. 111.—Mr. Schuyler to Mr. Frelinghuysen, No. 8, February 10, 1883, with an accompaniment.
No. 112.—Mr. Frelinghuysen to Mr. Schuyler, No. 20, March 9, 1883.

No. 113.—Mr. Schuyler to Mr. Frelinghuysen, No. 29, May 17, 1883. No. 114.—Mr. Davis to Mr. Schuyler, No. 33, May 28, 1883.

No. 115.—Mr. Schuyler to Mr. Frelinghuysen, No. 31, July 25, 1883. No. 116.—Mr. Frelinghuysen to Mr. Schuyler. No. 5, September 18, 1883.

No. 117.-Mr. Schuyler to Mr. Frelinghuysen, No. 42, October 19, 1883, with accompaniments.

No. 118.—Same to same, No. 52, December 8, 1883, with an accompaniment, No. 119.—Mr. Frelinghuysen to Mr. Schuyler, No. 48, December 19, 1883.

The Netherlands.

No. 120.—Mr. Eckstein to Mr. Davis, No. 261, January 11, 1883, with an accompaniment.

Spain.

No. 121,-Mr. Fairchild to Mr. Blaine, No. 176, July 16, 1881, with accompani-

No. 122.—Mr. Marston to Mr. Davis, February 18, 1882. (Telegram.)

No. 122.—Same to same, No. 76, February 14, 1883, with an accompaniment.

No. 124.—Same to same, No. 77, February 19, 1883, with a companiments.

No. 125.—Same to same, No. 78, February 24, 1883, with an accompaniment.

No. 126.—Mr. Reed to Mr. Frelinghuysen, No. 173, February 28, 1883, with an

accompaniment.

No. 127.—Mr. Davis to Mr. Marston, No. 41, March 7, 1883.
No. 128.—Mr. Badeau to Mr. Davis, April 5, 1883. (Telegram.)
No. 129.—Same to same, No. 98, April 5, 1883, with an accompaniment.
No. 130.—Same to same, No. 105, April 10, 1883.

No. 130.—Same to same, No. 105, April 10, 1883.
No. 131.—Mr. Frelinghuysen to Mr. Reed, No. 150, April 12, 1883.
No. 132.—Mr. Davis to Mr. Badeau, No. 40, April 18, 1883.
No. 133.—Mr. Frelinghuysen to Mr. Reed, No. 159, May 3, 1883.
No. 134.—Mr. Marston to Mr. Davis, No. 86, May 9, 1883, with an accompaniment.
No. 135.—Mr. Badeau to Mr. Davis, No. 147, May 25, 1883.
No. 136.—Mr. Marston to Mr. Davis, No. 88, June 8, 1883, with an accompaniment.
No. 137.—Mr. Frelinghuysen to Mr. Barca, June 14, 1883.
No. 138.—Mr. Barca to Mr. Frelinghuysen, June 20, 1883.
No. 139.—Mr. Frelinghuysen to Mr. Barca, June 29, 1883.
No. 140.—Mr. Foster to Mr. Frelinghuysen, No. 40, July 23, 1883.

No. 140. -Mr. Foster to Mr. Frelinghuysen, No. 40, July 23, 1883.

No. 141.—Same to same, No. 43, July 23, 1883, with accompaniments. No. 142.—Mr. Foster to Mr. Frelinghuysen, No. 89, October 23, 1883, with an accompaniment.

Sweden-Norway.

No. 143.-Mr. Gade to Mr. Davis, No. 309, March 3, 1882. No. 144.—Same to same, No. 313, April 12, 1882.

Switzerland.

No. 145.-Mr. Byers to Mr. Davis, No. 285, March 24, 1882. No. 146.—Mr. Mason to Mr. Davis, No. 146, September 25, 1883.

Turkey.

No. 147.—Mr. Wallace to Mr. Frelinghuysen, No. 96, June 6, 1882, with accompaniments. No. 148.—Mr. Frelinghuysen to Mr. Wallace, No. 68, June 29, 1882,

Miscellaneous.

No. 149.—Mr. Frelinghuysen to Mr. Loring et al., July 30, 1883. No. 150.-Mr. Frelinghuysen to Mr. Loring et al., October 3, 1883.

CORRESPONDENCE.

AUSTRIA.

No. 1.

Mr. Taft to Mr. Frelinghuysen.

[Extract.]

UNITED STATES LEGATION. No. 26.7 Vienna, November 28, 1882. (Received December 16.)

Sir: Inclosed I send an article, cut from a leading journal here, evidently written in the interest of the producers of meats in the Austro-Hungarian Empire. You will observe that it is proposed to extend the prohibition heretofore existing against pork to beef, and to all kinds of American meat. I have called upon the foreign office to inquire as to the purposes of the Government in regard to this matter, but could get no indication that the Government had it under consideration at all. Yet there seems to be an expectation that the Government will adopt the suggestions of this article. Two gentlemen of this city. Austrians, who are importers of American meats, have called upon me to see what could be done to prevent the carrying out of this purpose. They were very much alarmed, and said that if carried out it would ruin their business altogether. I have thought it

proper to call your attention to the subject and ask your instructions.

In this connection I should be glad to know what is the present position of the French Government on the same subject. * * * I hope that this Government has no purpose to extend the prohibition, as has been suggested, but that, on the contrary, it may be induced, on a more full consideration of the facts in the case, to rescind its order against our pork; but it would seem to require some attention

at this point.

I ought to add that the doctor, Kammerer, who presented these propositions to the city council of Vienna, is the head officer of the sanitary department of the To us, who have so long lived upon American meats, without a thought of danger, or of any need of inspection, and who have had far more fears of being struck by lightning than of being made sick by eating American beef or pork, the idea of forbidding the importation of our pork or beef into European markets on sanitary grounds seems very absurd: but there is evidently a good deal of pa as being taken to create apprehensions among the people of danger from eating American meats.

I am, etc.,

ALPHONSO TAFT.

[Inclosure in No. 26.—Extract in the Vienna Tagblatt of November 5, 1882.—Translation.]

MEASURES AGAINST TRICHINOSIS.

In the Rudolfs Hospital a death occurred recently caused by trichinosis, in consequence of which the city physician, Dr. Kammerer, submitted a memorandum to the city council containing precautionary measures to be adopted against the spreading of this dangerous disease.

The examination of the meat of slaughtered animals takes place at present, as is known, in the districts of Vienna by market commissaries, who go to the respective parties after having been notified. This measure the city physician finds inadequate, since at present a reliable control over these slaughtered animals is lacking.

As the best measure against the sale of meat injurious to health, the city physician points out the extension of the law requiring the killing of hogs to take place in public slaughterhouses in Vienna and the suburbs, since by these means alone a prompt, unexceptional, and technical examination of the animals can be

Already, by the law of March 9, 1866, published by the governor of Lower Austria, a proper inspection of meat conducted in conformity with the regulations is required, and stress is laid upon the public instructions concerning trichinosis published by the governor of Lower Austria in 1877, that the exact microscopical examination will be possible only when public slaughterhouses shall exist everywhere, and slaughtering be allowed to take place only in such.

The city physician makes the following suggestions in the interest of the public

health:

First. The slaughtering of hogs in the houses of the respective tradespeople should be prohibited, and the slaughterhouse requirement should be extended, for the reason above alluded to, to the slaughter of hogs.

Second. That means should be adopted to establish this law also in the suburbs,

where, until now, it does not exist (not even for oxen).

Third. For every slaughtered hog brought from the suburbs into Vienna proofs should be adduced that it has been examined microscopically.

Fourth. For sausages and smoked meats imported from abroad proof should be demanded on passing the custom-house that they are free from trichinæ.

Fifth. The import of meat of whatever kind from America (so-called canned meat, etc.) should be prohibited without exception, on account of unreliable control and doubtful origin.

Fatal infective diseases are likewise of frequent occurrence among American cattle, and the so-called Texas fever, a disease related to the rinderpest, has made sad havoc, and since beef has a higher value than hogs, and this disease may lie dormant for a long time in the animal, there can be no doubt that such meat is prepared as corned beef.

Aside from this, Mr. Mayer, a chemist, has shown the presence of lead in corned beef; that is to say, as much as 99 milligrams in one box. To this it must be added

that even the American newspapers have pointed out the fact that not only horse flesh, but also the meat of diseased animals, has been used by the people in the Since the preparation of canned meat does not destroy the disease, the question is: Are we bound to the consumption of corned beef, and is the consump-

tion of it a pecuniary advantage?

These questions must be answered in the negative. The first, by the fact that frequent diseases have resulted from eating these conserves; the second, by the circumstance that the box weighing 1 kilo contains about 700 grains of eatable meat, which, with 1 mark and 75 prennige, is sold at a higher price than a domestic article of equal value. In Vienna, likewise, these conserves are met in the market, and most dealers in delicacies sell the box for 1 florin and 20 kreutzers, or much dearer than a domestic article of the same value. For these reasons the proposition of the city physician to prohibit the import of American meats of all kinds is no doubt perfectly justified.

No. 2.

Mr. Davis to Mr. Taft.

[Extract.]

No. 22.7

DEPARTMENT OF STATE. Washington, January 19, 1883.

SIR: I am in receipt of your No. 26, of the 28th of November last, in regard to the agitation now being developed in Austria-Hungary in the interest of the meat producers in that Empire. You inclose an article from the Tagblatt newspaper, in which it is proposed to extend the prohibition at present in force against American pork to all kinds of American meat on the ground that beef as well as pork is liable to be infected with trichinæ. You state that on inquiry at the foreign office you could get no intimation that any such measure was at that time under consideration, but that the opinion appeared to be general that the Government would

adopt the suggestion of the newspaper article.

In this connection you inquire the present situation of the pork question in France. * * * In reply I regret to inform you that the prohibitory decree in France is still in force. A bill to withdraw the decree and adopt certain microscopic examinations in its place was passed by the French Chamber, but was defeated by a small majority in the Senate, and since that time no other action has been taken by the French Government in the matter. * * * The existence of tricking in heaf heaf approximation. of trichinæ in beef has never before been suggested. It is, in fact, an impossibility, as the ox is purely herbivorous, and trichinæ are only (and that rarely) communicated among carnivorous and omnivorous animals.

I am, etc.,

JOHN DAVIS, Acting Secretary.

No. 3.

Mr. Davis to Mr. Weaver.

[Extract.]

No. 102.7

DEPARTMENT OF STATE, Washington, January 26, 1883.

SIR: I have to acknowledge the receipt of your dispatch, No. 274, relating to renewed attacks on American canned meats on the ground that they contain trichinæ. A recent death alleged to have been caused by eating such meat is, you

state, made occasion for the renewal of the attack.

In reply, I have to say that the only hog products exported from this country in cans are such as are believed to be incapable of containing trichinæ in a form that could by any possible chance be developed into life. Our hog products exported in cans are such as lard, pickled feet, gelatine, etc., all of which have been subjected to such degrees of heat in the several processes required to render them merchantable as would destroy any germ, had any existed; but I understand that it has never been claimed that trichinæ have been found in any of the products

JOHN DAVIS, Acting Secretary.

BELGIUM.

No. 4.

Mr. Steuart to Mr. Davis.

[Extract.]

No. 105.]

CONSULATE UNITED STATES,
Antwerp, November 20, 1882. (Received December 2.)

SIR: I have the honor to inform you that the dealers in American meat on this market are very much agitated on account of a notice widely circulated by the German press to the effect that Prince Bismarck is preparing to offer a bill to the Bundesrath demanding the prohibition of the importation of American pork produce into Germany.

The Kreuz Zeitung, a prominent journal, says:

"We hear that the bill has not yet been presented but is under consideration by the Prussian Government. The examinations of the German imperial health office show that there is danger from the importation of American pork. It is proven that there prevails in America a disease among hogs called hog cholera, and that thousands of hogs die with it. The owners of these dead hogs do not hesitate to utilize them, and the result is that some of the product of these animals is sent into Germany for consumption."

The whole scheme is an unjustifiable attack upon an innocent article of American produce, and the dealers on this side of the water, the men who have labored to build up this branch of American trade, are earnest in their demand that the United States Government should come to their rescue, and defeat the adoption by Germany of such an unjust and injurious measure. With France and Germany both closed against American pork by governmental prohibition, the large trade

on this market would be virtually ruined, as only Belgium would be left to supply. As it is, the trade has been very much depressed for more than a year by the high prices ruling in America; and now, just when great hopes for a full revival of business were cheering the dealers, comes this blow from Germany to paralyze the market. The same cause that made the trade so dull greatly st. mulated the raising of hogs in Germany, and it is now, when the decline of prices in America revives trade and threatens to place the meat on the German market cheaper than they can produce it, that the cry of prohibition comes from a sanitary motive.

Antwerp, from being the most important distributing point on the Continent for American produce and provisions, has a very material interest in this matter, and hence I venture to call attention to the danger that threatens this branch of our trade. When you consider that of the very large quantity of American meat imported into Antwerp Germany takes about 80 per cent, you can readily see of what vital importance is the retention of such a customer, and what the result would be if this prohibitory measure should be carried out by the German authorities. The effect of the rumor at present is to stop all transactions; for as contracts have to be made in advance, dealers are afraid, in the possibility of losing such a customer as Germany, to touch the goods even at a very low price. * * * In conversation to day with one of my colleagues from one of the northern

In conversation to day with one of my colleagues from one of the northern countries of Europe, he said that he considered the importation into his country from America of petroleum and pork to have been the greatest boon ever conferred upon the laboring class, and I think the same remark would apply truthfully to the same class in Germany.

I am, etc.,

JOHN H. STEUART, Consul.

No. 5.

Mr. Wilson to Mr. Davis.

No. 22.7

CONSULATE OF THE UNITED STATES. Brussels, February 24, 1883. (Received March 13.)

Sir: In a report made to the Department June 14, 1881, on trichinæ spiralis in American pork, a subject then very much agitating not only the people of Bel-gium but of this entire Continent, I gave, in connection with a brief history of this parasite and the previous panics it had produced throughout Europe, the result of my own microscopic examinations of several lots of salted meats said to be imported from the United States into this country. In that paper I not only expressed the opinion that the cyst of the parasite was its tomb, but that I believed it did not long survive in well-salted pork, and I now beg to say that after much subsequent study of this subject I very much doubt whether a single competent microscopist can now be found who will be bold enough to assert that he has discovered the encysted living animal in thoroughly salted hams or bacon.

As the whole question of the dangerous or harmless character of this class of our foreign exports is based upon the truth or error of this opinion, and as there is now an effort being made in Germany to interdict its importation on account of its assumed unsoundness, from my previous professional training and habit of investigating vital phenomena, I have felt justified in expressing to the Department this, as I think, well-founded opinion, in the hope that it may lead to such investiga-tions by more competent persons as will forever set at rest this frequently recur-ring and damaging fear of mortal disease from eating American pork.

The most panic-producing writers on this subject generally admit that it is from eating raw or imperfectly smoked or salted swine's flesh that the disease known as trichinosis usually results, and they further confess that when once the little animal is inclosed within the walls of its envel ping cyst its active life ceases, and that, in whatever numbers found, it henceforth ceases to endanger either life or health. Yet with a rare inconsistency many of them claim that in this quiescent state it retains its vitality for a long period, even extending through many years. Of this fact there can, of course, be but simple conjecture, seeing that no observer can tell at what exact time the parasite has thus enshrouded himself. But opposed to this theory is that almost universal law of animal life that the longevity of the animal generally bears a direct proportion to the period required for its matura-Now it is claimed by most trichinic observers that the process of generation and birth of this little animal invariably takes place in the stomach and intestinal canal, and that within a few days from its bath it has so matured as to penetrate the walls of the intestines and rapidly make its way through the various intervening structures to the remote muscular tissue of the animal it infects, there to be speedily encysted and endowed with a subsequent dormant existence of several years, during which time its presence occasions little or no inconvenience. Of this theory of the life and movements of this little worm I can only say that it involves an almost unparalleled exception to the law generally regarded as determining animal life, and ought not be accepted but upon the most positive proof.

It may further be stated that the law governing parasitic existence in living tissue usually involves the speedy death of the parasite after the pabulum upon

which it feeds has passed from under the domain of vital force; hence, unless this tiny worm constitutes an exception to this law, its life must be short after the organic structure upon which it feeds has ceased to live.

But however this may be, the fact remains, according to my observations, that this parasite can not live in a tissue saturated with chloride of sodium, or common salt. If in this opinion I am mistaken, I can only say that I have failed to receive authentic proof to the contrary, and, until otherwise convinced, I feel it my duty to reiterate the results of my own experience and observations, and that is that I have never myself seen nor found a microscopist who would declare that he had observed tricinæ in motion, or manifesting any other sign of life, when found in well salted meats. I have myself been present when officially appointed microscopists, at some of the abattoirs of this country, have been engaged in examining American pork for trichine, and have been invited by these gentlemen to see for myself through their microscopes the peculiar cell and spiral coil of the animal, but on carefully examining them I have only observed, blended with the tissues and minute salt crystals, the entombed animal, evidently as destitute of life as the structure in which it was embedded.

If, then, salt really kills trichine, and of it I have scarcely a doubt, it is evidently an injustice on the part of foreign governments to lay an embargo on our

pork product, which, of all others, in order to secure it against decomposition on a long journey to foreign markets, is better salted than that of any other country. Seeing, then, that this question of whether common salt is indeed an effectual destroyer of triching life is one of such vital importance, not only to our export trade, but also to the poor and laboring classes of all countries, I can not refrain from urgently suggesting to the Department the propriety of an exhaustive examination of the subject, for if it once becomes an established scientific fact that salt really does kill this parasite, and our packers and shippers will but properly salt their meat intended for exportation, foreign governments will no longer be able to justify their prohibitive measures by an appeal to the danger of communicating mortal disease by the introduction of the already too-much slandered American pork.

Very respectfully, etc.,

JNO. WILSON. United States Consul.

No. 6.

Mr. Steuart to Mr. Davis.

[Extract.]

No. 116.7

UNITED STATES CONSULATE, Antwerp, April 12, 1883. (Received April 27.)

SIR: In the March number of the American Mail and Export Journal I read with much interest an article entitled the "Pork question again," but it contains the following erroneous comparison regarding Belgium, to which I wish to call attention and to correct, as it weakens the force of the argument by greatly underrating the importance of Germany and France in our foreign pork trade.

The author gives a table of "exports of American pork products during the fiscal year ended June 30, 1882," and adds: "It will be seen by the foregoing that the consumption of American pork products, outside of lard, in Germany and France is insignificant, both countries not consuming one-half of that of Belgium alone.

The mistake he makes is in assuming that the total importation into Belgium is consumed in Belgium, whereas it is merely in transit, and from 75 to 90 per cent of the bacon and lard coming from the United States into Antwerp is sold to and consumed in Germany; and the same comparison might have been made in regard to American hams with France, as before her prohibition decree Antwerp had a large trade with northern France in that article, but the consumption of American pork in Belgium is very trifling as compared with Germany and France.

Antwerp acts as a broker for a great part of Europe, and the large importations find their way here simply because this is the best market and the best distributing point on the Continent.

Since 1880 the imports of American meat have fallen off greatly on account of the continued high prices ruling in America; but the amount imported into Antwerp during 1882, as shown by the table herewith inclosed, had a value of more than \$5,000,000, and it is this large interest that makes the dealers here watch with anxiety the action taken by the European governments affecting this interest, and also to see what, if anything, is to be done by our Government.

I have called attention a number of times, and do again here, to the fact that American meat has its value on this market as an article of barter and not as an article of consumption. Therefore, Belgium being a kind of transit depot, the heavy importation here tends to increase and not diminish the importance of Germany and France, for they are the recipients and consumers. They are very important to our foreign pork trade, and their absence will be felt when we again have a large surplus crop at home.

I hope to see these arbitrary prohibition decrees kept in view, for it is a question affecting not meat alone, but may be extended with equal justice or injustice to

any other of our products that may stand in their way.

The sanitary plea is, of course, an invention without reason and without truth, * * * and as for France, in a question of endangering the public health, so long as we continue to import and drink her so-called wines and brandies she would have greatly the advantage of us if all her ports were thrown open to our pork and if it should be really much worse than they claim it to be.

I have, etc.,

JOHN H. STEUART, United States Consul.

[Inclosure in No. 116.]

Import of bacon and lard into Antwerp, 1882.

Month.	Bacon.	Hams.	Lard.		
			Tierces.	Cwt.	Pails.
January February March April May June July August September October November December	Boxes. 13, 854 4, 064 2, 045 1, 062 1, 889 3, 289 1, 558 1, 342 1, 089 622 1, 260 992	Boxes. 456 315 356 200 363 122 260 170	16, 653 1, 455 4, 558 4, 125 3, 920 6, 235 5, 645 1, 050 225 1, 700 16, 552 6, 825	9,800 2,335 2,220 3,444 560 1,800 5,400 2,800 7,200 11,200 4,300 6,140	1,260 1,000
Values	\$1,796,374	\$86,230	\$2,896,866	\$384,993	\$32,44

Total value, \$5,196,905.

DENMARK.

No. 7.

Mr. Ryder to Mr. Davis.

No. 206.7

Consulate of the United States, Copenhagen, April 5, 1883. (Received May 1.)

Sir: I have herewith the honor to hand a report on a subject which is at present creating considerable excitement among the agricultural classes in this country. I allude to an imperial decree lately enacted by the German Empire prohibiting the importation of live swine, pork, and sausages from the United

States of America into the ports of the German Empire.

Fears seem to be entertained here that the very considerable export trade in these articles which is now carried on from this country with Germany may, at no very remote period and in consequence of this decree, be subjected to such regulations and restrictions as would materially interfere with this trade, and that for the important agricultural interests of this country it would be desirable that Denmark should also issue a similar prohibitory order against the importation of such stock from the United States. I do not, however, at present anticipate any immediate danger of such prohibitory order being enforced; but should the German Government later on deem it necessary to place onerous restrictions on the trade from this country, under the plea that American swine and pork were being introduced into the Empire through this channel, great pressure would doubtless be brought to bear so as to compel the Danish Government to issue a similar decree of exclusion in the interests of their agricultural community.

In investigating the importance of this branch of Danish trade it will be found that the export of live swine is mainly directed toward Germany. Inasmuch as while the total export in 1881 of hogs and pigs from this country amounted to 253,294 head, of the value of 22\frac{3}{2}\text{ millions of kroners, of these no less than 237,118 head, of the value of 21\frac{1}{4}\text{ millions of kroners, were exported to the German Empire.} In the same year 979,000 pounds of pork and hams, of the value of 396,000 kroners, and 946,000 pounds of beef and sausages, of the value of 269,000 kroners,

In the same year 979,000 pounds of pork and hams, of the value of 396,000 kroners, and 946,000 pounds of beef and sausages, of the value of 269,000 kroners, were likewise exported to the same country, giving a total export value of these articles of about 21,900,000 kroners. That a very considerable proportion of the live stock which is exported from Denmark to Hamburg is not intended for consumption in that Empire, but is again reexported in a slaughtered state to Holland and to England, is not to be denied; but looking at the development which this trade has received in the latter years it is felt by the commercial and agricultural classes in this country that they can not at present afford to lose the market of Hamburg as a middle link in this trade; and that even supposing that other markets could be found for the absorption of their surplus stocks of live swine, this would, in the first instance at least, be attended with considerable pecuniary loss.

At the same time, however, it may be presumed that Germany, especially at a time when their supplies from the United States are stopped, can not well afford to be deprived also of their supplies from this country, and that consequently they may not place further restrictions on this trade than may be thought absolutely necessary for the preventing of American produce being clandestinely introduced into the Empire through neighboring States. But if every shipment of wine or its products has to be accompanied by certificates and proofs of their origin, this

will entail considerable expense, trouble, and loss of time.

Proceeding next to investigate the extent of the trade in these articles between the United States and this country, it will be seen that the importation of live swine, owing to the heavy expenses and risks attending the long sea voyage, may be classed as nil; whereas the trade in hog products has gradualy been on the increase in the latter years, the importation of pork and hams in 1881 amounting to 4,175,000 pounds, of the value of 1,565,000 kroners; and of beef and sausages of 357,000 pounds, to the value of 98,000 kroners. It will thus be seen that a restriction simply confined to a prohibition of the importation of live swine would not have any injurious effects on the commercial relations between the United States and this country; and taking into consideration that the swine products are imported for home consumption, and not for reexport, thus tending to the welfare of the general community by lessening the cost of living. I am of the opinion that these views will tend to outweigh with the Danish author ties any pressure that might be brought to bear upon them from the commercial and agricultural interests for the furtherance of any such injurious restrictions.

The restrictive measure enacted by the German Empire under the pretense of

sanitary reasons is but a flimsy veil. which might easily be torn into shreds: it has more the appearance of a sop to satisfy the clamors of the a ricultural classes, which have no doubt been suffering from the bad harvests in the last years: but, fortunately, this class of the community in Denmark has, from various circumstances, certainly not been subjected to such unfavorable results as has been the case in most of the other European States, and consequently the Danish Government will be in better position to withstand similar pressure from this class of

their community.

I have, etc.,

HENRY B. RYDER. United States Consul.

No. 8.

Mr. Ryder to Mr. Frelinghuysen.

[Extract.]

No. 15.]

LEGATION OF THE UNITED STATES, Copenhagen, April 28, 1883. (Received May 14.)

SIR: I have the honor to refer you to my dispatch No. 206, addressed to the Hon. John Davis, Assistant Secretary of State, under date of the 5th instant, and to report now that the Danish Government finding the regulations put in force by the German Government on the importation of live swine into the German Empire of such a character as to materially interfere with the trade, have proposed, through their minister at Berlin. to the German Government to prohibit the importation of live swine from the United States of America into the Kingdom of Denmark, providing the German Government would agree to remove the restrictions lately placed by said Government on the importation of live swine from Denmark into Germany. I was at first informed on good authority that the proposition from this Government to Germany was a general one with reference to the importa-tion of pork produce from the United States, but on calling to-day on the foreign minister I found this to be a mistake. His excellency remarked that said proposition only had reference to live swine, and that it was very uncertain whether it would lead to any results. As no live swine are imported from the United States of America to this country, a restriction simply confined to a prohibition of this article would not have any injurious effects on the commercial relations of the United States and Denmark.

I have written Mr. Sargent, our minister at Berlin, about this matter. I am, etc.,

HENRY B. RYDER, Chargé ad interim.

FRANCE.

No. 9.

Mr. Morton to Mr. Frelinghuysen.

[Telegram.]

LEGATION OF THE UNITED STATES. Paris, January 17, 1882.

Faure, under secretary commerce, thinks bill introduced in Chamber Saturday will result practically in free admission American salted meats. He had hopes early passage both houses.

MORTON.

No. 10.

Mr. Morton to Mr. Frelinghuysen.

[Extract.]

No. 107.1

LEGATION OF THE UNITED STATES, Paris, January 20, 1882. (Received February 8.)

SIR: I have the honor to inclose herewith a copy and translation of a bill in relation to American salted meats, which was introduced in the Chamber on the 14th instant by Mr. Faure, deputy and under secretary of commerce.

This bill repeals the decree prohibiting the importation of American pork, and provides for its introduction into France upon certain restrictions which will, I believe, practically result in its free admission.

The minister in presenting this bill explained the reasons which dictated its

action.

At the time the decree was issued, anxiety and alarm existed, microscopic examination could not be resorted to and prohibition under the circumstances was necessary. But since that time nearly all the chambers of commerce of France have protested against the measure, and the Government has been led to question seriously the propriety of maintaining it.

A careful examination elicited the fact that from 1878 to 1880, 95,000,000 kilograms of American pork were consumed in France without danger, and that Belgium, where the consumption is about six times as large as in France, and England, where it is eight times as large, did not suffer at all from trichinosis.

It was found besides that the cooking of the meat afforded an additional protec-

tion against trichinosis to the one already secured by its process of curing.

Upon the evidence of these facts the committee of public hygiene rescinded its former advice, and declared that, in its opinion, prohibition was unnecessary, provided the meat introduced into France was well cured. The Government, therefore, proposes the free admission of American pork upon the conditions stated in the bill.

It has taken nearly two years to establish the fact that the remonstrances which our Government made from the beginning to this unjustifiable measure, and which have been constantly pressed upon the French authorities by my predeces-

sor and myself, were just and well founded in every respect.

I regret that the bill proposed still maintains the prohibition of sausages and hashed meat, the reasons for which I do not understand. But, as the bill is, if its provisions are applied in a liberal spirit, as I believe they will be, our packers will have no reason to complain.

Mr. Faure expressed to me the opinion that the bill would pass both houses

within four or five weeks.

I have, etc.,

L. P. MORTON.

[Inclosure in No. 107.-Translation.]

BILL ON IMPORTATION OF AMERICAN PORK,

The minister of commerce presented yesterday, in the name of the Government, the bill relating to the withdrawal of the decree prohibiting the importation into France of American pork. This is the text of this document:

ARTICLE 1. The decree of February 18, 1881, prohibiting the importation into France of salt meats of American production is annulled.

ART. 2. Salted pork of foreign production, accompanied by a certificate testifying that the meat has undergone a perfect preparation, and that it corresponds with the type known in commerce under the name "fully cured," can be imported into France.

These certificates will be made out in the places of their origin with promptitude, and at the cost of the parties interested, by local experts, whose qualifications will be attested and the signature authenticated by the consular agents of

the Republic.

ART. 3. At the moment of the payment of custom-house dues in France the importers must prove that the meats which they propose to hand over for consumption are healthy; that they are in a perfect state of preservation, and that the salting is not defective.

This authentication will be made at the expense of the importers by inspectors

appointed by the prefects of the frontier departments.

ART. 4. The present arrangements are not applicable to meats hashed and uncooked, such as different kinds of sausage (saucisses, saucissons, cervelas, &c.), nor to guts (boyaux) intended for culinary preparations, the importation of which

into France is absolutely prohibited.

ART. 5. Will be punished by imprisonment of from two to six months, and by a fine of from 100 to 300 francs, those who will have brought into France uncooked and hashed pork, such as the various kinds of sausages (saucisses, saucissons, cervelas, &c.), or guts (boyaux) intended for culinary preparations, those who will have imported into France pork of foreign production which would not have been subjected to the inspection imposed by the present law, or which would not have been refused after examination.

In the two above-mentioned cases the imported meats will be, in addition, seized

or destroyed.

The article 463 of the penal code is applicable in the cases provided for in the present article (fifth).

No. 11.

Mr. Davis to Mr. Morton.

No. 96,7

DEPARTMENT OF STATE, Washington, February 10, 1882.

Sir: I am gratified to learn from your dispatch No. 107, of the 20th ultimo, that it is very probable that the objectionable decree of the French Government against American pork will soon be repealed.

Thanking you for your full and interesting report on the subject.

I am, etc.,

J. C. BANCROFT DAVIS. Acting Secretary.

No. 12.

Mr. Morton to Mr. Frelinghuysen.

No. 130.7

LEGATION OF THE UNITED STATES, Paris, February 28, 1882. (Received March 18.)

SIR: I have the honor to acknowledge the receipt of your dispatch No. 96, of date February 10, conveying the gratification of the Department for the information that the decree of the French Government prohibiting the importation of American pork would probably soon be repealed.

With the defeat of the Gambetta cabinet, which was pledged to the withdrawal of the decree, and the reinstallation of Mr. Tirard, who originated the measures of prohibition as minister of commerce, I regret to say that the prospects of an equitable and liberal settlement of this long-pending question are not now as favorable as heretofore.

The bill which was drawn up by the late minister of commerce, of which I gave you the substance in my No. 107, is still before the chamber, and will not, I think, be withdrawn. But it is somewhat doubtful whether the committee to which it was

referred will now report it favorably,

I must state that the renewal of the objection made to the importation of American pork is not to be attributed solely to the hostile influence of the minister of commerce, and of those who have adverse private interests in the matter, but mainly to the publication in some American papers of supposed fatal cases of trichinosis. These reports, which have been circulated unfortunately by the American Correspondence, a New York Franco-American weekly sheet, printed partly in French, are copied by the French papers, and its paragraphs upon American trichinosis have received rather a wide circulation. I inclose herewith, for your information, two of these paragraphs, which appeared in the Correspondence of January 28 and February 11.

Many people have called at the legation to ascertain if there was any founda-tion for these reports. I have not hesitated to declare that, in my opinion, they were spurious, and that there was nothing like an epidemic of trichinosis existing in the United States. It might, however, be useful if I could speak with official authority from the State Department in the matter.

I have, etc., L. P. MORTON.

[Inclosure in No. 130.—Extract from the American Correspondence, January 28, 1882.]

TRICHINOSIS IN THE UNITED STATES-EXPERT INSPECTORS OUT OF THE QUESTION LEGALLY.

Like all Americans, we regret that the Chamber of Deputies did not instruct the Government to allow salt provisions from the United States to be admitted without restrictions, as we were in hopes that they would, and so expressed ourselves in our last number. We are confident, at any rate, that the French legislators will continue to overlook the publication in papers opposed to free importation of numerous cases of trichinosis; more, in fact, than have really occurred. Reliance can be placed upon our statement that there were only six cases last week, of which four were fatal, and but two this week; which shows conclusively that trichinosis is a scarecrow which has been made too much of.

We also expressed the apprehension that the Chamber of Deputies at Paris would take offense at being placed by the Government on the same level with American corporations, or even with the petty legislatures of separate States, with which it is proposed to treat (and not with the American Congress), for licensing as experts those persons in America whose duty it will be to issue certificates of the wholesomeness of such provisions as they may agree to admit into France. But it would appear, unfortunately, that such appointments as experts are contrary to the laws

of the United States, as we are informed by a friend and correspondent who is a well-known jurist and was at one time a United States judge.

I call your attention to the text of the law as proposed, which will require the exporter to produce an inspection certificate from this side to identify the soundness of the provisions. It will be exceedingly difficult, if not impossible, to comply with such a requirement, for the simple rea on that in this State and in Pennsylvania, if not in all the other States of the Union, there are no authorized legal It is a matter of history that the inspection laws formerly existing in this country, requiring the inspection of exports and brands of the board on casks, barrels, or packages, hurt the sale of the article in the foreign market. It is unnecessary to detail the reason, but the abuse was so flagrant that in New York the constitution of the State forbid forever the appointment of inspectors or boards of inspection. And so it is in Pennsylvania. Whence is the exporter to obtain the inspection certificate demanded by the French law? In this country the purchaser must look out for himself. He has no other protection than the punishment of the person who, knowingly, sells putrid or unwholesome food. It is otherwise in France and other foreign countries, whose Governments deem it their duty to add to the common law requirements and a priori evidence that the article offered is sound. It is supposed that perhaps an inspection in the interior or the place of manufacture-say at Cincinnati or Chicago, etc. - by private parties would be sufficient. This is a delusive idea. The French bill requires the inspection by a competer t. impartial, and disinterested expert, authorized by the legal government; but whilst there may be voluntary inspectors, they are not the class to which France looks for the protection of the lives and health of its inhabitants. In the next place neither of these centers is the point of export. The shipment to France is made here in vessels loading at this port. But pending the transit from the interior to the shipboard, on which the package will leave this country, there are so many opportunities of fraudulent marks, substitution if packages, and other tricks of trade that the original certificate, if in all respects correct, would not be proof of the identity of the article finally consigned to Havre. Nor will the French consular certificate of authenticity of signature, etc., be of any avail. The French market still regrets with sorrow the cirtificate of authenticity of the signature to a document, pretending to emanate from authority, that Fremont's notorious Memphis and El Paso Railroad was a duly recognized and salable stock at the regular New York Stock Exchange, a paper by which millions of French money were gathered for an unsafe and judicially fraudulent stock.

The only remedy for the free export of meat and provisions from here to France is the absolute and unconditional repeal of the existing ordinance. The Chamber will not permit a change which can easily be evaded by illegitimate means. Will

it permit a trade in natural course? This is the question.

As we go to press we find the following dispatch published in all the New York papers of to-day (January 27), with displayed headings:

"FIFTEEN PERSONS POISONED—TRICHINOSIS CAUSED BY EATING RAW HAM—THREE FATAL CASES.

"MARSHALL, MINN., January 26.—Great excitement has been caused here by trichina poisoning from eating raw ham. Fifteen prominent citizens are a licted and three have died. An entire family, consisting of Mr. and Mrs.——, etc."

Names and details are given. All which seems flatly to contradict those sanguine persons who, like ourselves, persistently maintain that the French Government ought to withdraw the prohibitive decree. It shows, at any rate, that the cases of trichinosis mentioned by us in our last number were not at all exaggerated. We say again that these are special and particular cases, and that they prove nothing in a general way. It should be noted that, in the above instance, those who died had eaten raw ham. In France it is always eaten cooked. Hence there is no cause for alarm. No uneasiness need be felt either about the lard in cans, prepared or purchased in quantities by leading speculators, such as Messrs. Armour, Fowler, etc., which they introduce in a roundabout way into France, where it is consumed without apprehension or suspicion of its American origin.

[Inclosure 2 in No. 130. Extracts from the American Correspondence of February 11, 1882.]

SPECULATION AND TRICHINOSIS.

The movement to bring about a withdrawal of the decrees prohibiting the importation of American provisions into Europe, and particularly into France, continues to be carried on under unfavorable circumstances. As the American Correspondence has been predicting for a year past, the results have hitherto been negative. Matters are even worse at present, because speculation has thrust itself so deeply into this question which Mr. Levi P. Morton, the American minister, is trying so strenuously to settle, because he knows what privations the laboring classes in Europe and what io sees the American cattle raisers are suffering by reason of the prohibitive decrees. But the large speculators do not care much for that. Operators, for a rise, have published in certain papers that the decree had been abrogated in France by the Chamber, simply because a bill has been introduced by the Government, which will soon be buried out of sight, if people believe, in France, the exaggerated accounts of trichinosis published in certain other papers under sensational headings like the following:

"THE POISONED FAMILY-THE AGONY ENDURED BY THE JAEGERS AT FORT WAYNE, IND.

"[Official dispatch to the Evening Telegram.]

"FORT WAYNE. February 9.—The News says, with reference to the Jaeger family, five in number, who are suffering from trichinal poisoning: 'They suffer intensely. No immediate danger is anticipated; but their ultimate recovery is

doubtful. The girl, aged 15, and her sister, aged 5, are in a very bad condition. No hopes are entertained of their recovery. The balance may survive. The oldest child was working in the country and came home to wait on the family and

ate once of the diseased meat. She has a very mild form of trichinosis.'
"It will be observed that this does not refer to the same case as that of which we deemed it our duty to publish the true particulars, because they had been too much magnified by some papers. These exaggerations originate with the bear speculators, who are well aware that if they should only hear in France of any new cases of trichinos's in this country they would never venture to withdraw the prohibitive decrees. For this reason we desire to caution the French public and Government once more not to attach any credit to exaggerated accounts like the above."

No. 13.

Mr. Morton to Mr. Frelinghuysen.

No. 138.7

LEGATION OF THE UNITED STATES. Paris, March 17, 1882. (Received March 30.)

SIR: I have the honor to inform you that the committee to which the bill providing for the free introduction into France of foreign pork had been referred has made a favorable report, and that the question will come up in the Chamber on the 22d instant. All indications now point to the passage of the bill.

The Academy of Medicine, to which the Government had submitted the matter, has pronounced itself against the measures resorted to or contemplated for obstructing the importation of pork. I amnex herewith a copy of the report of the academy, which has been kindly furnished to me by Dr. William E. Johnston

The Academy of Medicine of France is an official body authorized to answer the questions on sanitary measures propounded to it by the Government, and its decisions, when uttered in a clear and decided manner, as in the present case, have great influence with the executive and legislative departments of the Government.

I have, etc.,

L. P. MORTON.

[Inclosure 1 in No. 138.]

W. E. Johnston, M. D., to Mr. Morton.

PARIS, March 16, 1882,

DEAR SIR: I have the honor and the pleasure to inform you that after a full discussion of the question of trichine in connection with American pork at the National Academy of Medicine of Paris, a discussion which ran through several sittings, that body has come to a decision which fully justifies the views your legation has maintained on this question.

The Academy of Medicine of France is an official body authorized to answer in an official manner the questions on sanitary measures propounded to it by the Government, and its decisions, when uttered in a clear and decided manner, as in the present case, always meet with the deference on the part of the Government

to which they are entitled.

I subjoin the declaration voted by the academy.

I have, etc.,

W. E. JOHNSTON, M. D.

Report at the National Academy of Medicine of France on the question propounded by the Government of the necessity of an inspection of foreign pork.

[Read by Dr. Bouley, professor at Alfort, reporter of the special committee, February 28, 1882.]

The academy taking into consideration—

First. That for a great many years American and German pork has been freely admitted into France without having been submitted to any kind of inspection as regards trichinæ:

Second. That notwithstanding the very extended use which has been made of this kind of meat, especially in the army and the large manufacturing and industrial districts, the disease called trichinosis, with the exception of a single case, which was produced by indigenous pork, has not been observed in any part of

France, although at the same time the attention of physicians has been frequently

called to that disease in Germany;

Third. That this immunity enjoyed by the people of France in regard to trichinosis is due without any doubt to their culinary habits, pork being never eaten in France without having been submitted to such a temperature in cooking as is incompatible with the life of trichinæ;

Fourth. That an efficacious microscopic inspection would be with difficulty applied to the enormous mass of 90,000,000 of pounds of pork, which is the annual amount of importation, and that in any case the inspection would not prove to be a certain guaranty of the innoxiousness of the pork as regards trichine, since the irregularity of the dissemination of trichine does not permit the conclusion that because they do not exist in one part they may not exist in another-

Is of the opinion-

That it is not necessary to submit imported pork to a microscopic inspection in order to prevent trichinosic infection, the culinary habits of the people of France being such as to demonstrate thus far that precautions used in cooking are sufficient to preserve them from the infection; and that it suffices to put them on their guard against the possible danger of the use of raw or incompletely cooked pork to point out to them by a special printed instruction these dangers, and to distribute these instructions through the aid of the Government agents to every part of France.

A minority report on an unimportant point was read by a member of the com-

mittee, and was rejected by the academy.

No. 14.

Mr. Morton to Mr. Frelinghuysen,

[Telegram.]

LEGATION OF THE UNITED STATES, Paris, March 20, 1882.

Pork bill comes before Chamber Thursday. Important to have cable from you denying reports of prevalence of trichinosis in United States.

MORTON.

No. 15.

Mr. Frelinghuysen to Mr. Morton.

[Telegram,]

DEPARTMENT OF STATE, Washington, March 22, 1882.

Health officer of Cincinnati certifies that records of that city, the center of pork trade, do not show a single case of trichinosis. Dr. Ranch, secretary health board of Illinois, reports only 11 deaths from trichinosis in whole State in sixteen years, traced in each case to eating raw pork. City physician of Chicago states records show only two cases there in four years, also due to eating raw pork. The places mentioned are the great pork producing and consuming districts of United States, while the whole country consumes more pork per capita than any other country.

FRELINGHUYSEN.

No. 16.

Mr. Morton to Mr. Frelinghuysen,

[Telegram]

LEGATION OF THE UNITED STATES. Paris, March 28, 1882.

Pork bill, with microscopic amendment, passed Chambers. Vote on amendment, 256 ayes, 216 noes. MORTON.

No. 17.

Mr. Morton to Mr. Frelinghuysen.

[Telegram.-Extract.]

LEGATION OF THE UNITED STATES. Paris, March 29, 1882.

The pork bill passed yesterday provides for inspection in France by experts appointed by minister commerce, who shall have the right to prescribe mode of examination. This last clause, which was introduced by amendment, has in view the restablishment of microscopic examination. * * * the reestablishment of microscopic examination. * *

MORTON.

No. 18.

Mr. Morton to Mr. Frelinghuysen.

No. 146.]

LEGATION OF THE UNITED STATES. Paris, March 31, 1882. (Received April 13.)

SIR: I had the honor to inform you on the 28th and 29th instant by cable that the pork bill had passed the Chamber with an amendment aiming at the reestablishment of micrographic examination. I transmit herewith copies of my telegrams and a translation of the text of the bill as it passed the Chamber.

The amendment, introduced by the opponents of the free admission into France

of our pork, is contained in the three last paragraphs of article 2. It does not provide in terms for micrographic examination, but the debates show that it is

intended to secure that result.

The minister of commerce, Mr. Tirard, who agreed to it and has secured its passage, is well known to be in favor of this mode of inspection, and to hold that it is the only one by which any effective guaranty can be given. In a conversation which I had with him the day before the debate he expressed this opinion, and remarked that there was a strong prejudice in France against American pork; that it would find no sale, although it might be perfectly sound, unless some kind of inspection was required which would satisfy the public.

He discussed the question in a friendly manner, and intimated that the inspection, if required by the new law, could be made easy, and would become more and more so if all meats were found to be in a sound condition.

Mr. Achard, of Bordeaux, the chairman of the committee who reported the bill, during the debate read your telegram, a copy of which I had furnished him, denying the existence of trichinosis in the United States, and made an able argument in favor of this bill, claiming that the prohibition was unjustifiable, that our pork was perfectly healthy, and that even if it should be unhealthy no inspection or examination of such quantities could be in any way effective. His speech is too long to be translated, but by referring to the Journal Officiel of the 28th and 29th, which goes regularly to the Department, you will find it in full, with the whole proceedings.

It is believed that the Senate will pass the bill without change.

I have, etc.,

LEVI P. MORTON.

[Inclosure in No. 146.—Translation.]

BILL PASSED BY THE CHAMBER.

ARTICLE 1. Salted pork meats of foreign production which correspond to the type known in commerce under the name of "fully cured" can be imported into France through places on the frontier of land and sea, which will be designated by decree.

ART. 2. At the moment of landing the importers must prove that the meats which they intend to hand over for consumption correspond to the aforesaid type; that they are wholesome; that they are in a perfect state of preservation, and that the salting of them is complete. This authentication will be executed by special experts.

These experts will be appointed by the minister of commerce, who will possess the right to direct such manner of examination as will appear to him necessary.

The cost of the service of inspection will be paid by the importers under condi-

tions to be established by rules of the public administration.

The custom-house service will only allow the removal of the meats on the certificate of these experts establishing that they consider the condition required in the first paragraph of the present article.

ART, 3. The present arrangements are not applicable to uncooked chopped meats, such as small and large sausages. Dologna sausage, &c., nor to guts intended for culinary preparations, the introduction of which into France is absolutely pro-

ART. 4. Will be punished by imprisonment of from two to six months and by a

fine of from 100 to 500 francs:
(1) Those who will have introduced into France uncooked chopped pork such as large and small sausages, Bologna sausage, &c., or guts intended for culinary preparations.

(2) Those who will have introduced, or attempted to introduce, into France without submitting them to the verification prescribed by the present law of pork

of foreign production.

In the two above-mentioned cases the imported meats will be, moreover, seized

and destroyed.

Article 463 of the penal code is applicable in the cases foreseen in the present

article.

ART, 5. The decree of February 18, 1881, which prohibits the importation into France of salted pork of American origin, is repealed.

No. 19.

Mr. Frelinghuysen to Mr. Morton,

No. 129.7

DEPARTMENT OF STATE, Washington, May 10, 1882,

Sir: Acknowledging the receipt of your dispatch, No. 163, of the 20th ultimo, requesting authority to draw on the Department for the sum of 235.50 francs for expenses incurred by your legation in translating and printing the report on American pork, I hereby authorize you to draw for the above sum on this Department. I will thank you to send with your draft an account for the amount thereof, supported by proper vouchers.

I am, etc.,

FREDK. T. FRELINGHUYSEN.

No. 20.

Mr. Morton to Mr. Frelinghuysen.

[Extract.]

No. 191.7

LEGATION OF THE UNITED STATES, Paris, June 27, 1882. (Received July 18.)

SIR: I regret to have to inform the Department that the pork bill, of which a copy was sent with my dispatch, No. 146, of March 31, 1882, was defeated in the

Senate a few days ago.

This result was quite unexpected. The bill had the unequivocal support of tle Government and of the Senate committee to which it had been referred. chairman of this committee, Senator Wurtz, the eminent chemist and dean of the Academy of Medicine, reported the bill in the strongest language possible, showing by conclusive proofs and arguments that the trichina, wherever it existed, could not resist the double process of salting and cooking, and that with a proper inspection the introduction into France of our fully cured pork could not be attended with any danger or inconvenience. Mr. Tirard, the minister of commerce, advocated the passage of the bill on the same ground.

The opposition, which came mainly from the hog-raising departments, con-

tended that if there were no danger in allowing the free introduction of American meats into France the Government could remove the decree of prohibition without any law, and succeeded in defeating the bill by a majority of four votes.

I have, etc.,

LEVI P. MORTON.

No. 21.

Mr. Frelinghuysen to Mr. Morton.

No. 152.7

DEPARTMENT OF STATE, Washington, July 28, 1882.

Sir: The Department learned with regret from your dispatch, No. 191, of the

27th ultimo, that the pork bill had been defeated in the French Senate.

Approving of your action in having an interview on the subject with Mr. Tirard, the minister of commerce, I need hardly add an expression of my desire that you shall omit no proper opportunity to urge upon the French Government the withdrawal of the objectionable decree with reference to American pork.

I am, etc.,

FREDK. T. FRELINGHUYSEN.

No. 22.

Mr. Wilson to Mr. Davis.

No. 12.7

UNITED STATES CONSULATE,
Nantes, December 4, 1882. (Received December 22.)

Sir: I have the honor to transmit herewith a report on the subject of the prohibition of American pork in France. I have found certain evidence, consisting of official communications and reports made by the chamber of commerce of this city, which represents a large pork interest, to the minister of agriculture and commerce at Paris, which I consider to be newly discovered and highly valuable. It declares the inability of the French pork manufacturers to compete with the like industry of the United States. It charges their failures to the competition from the United States, and says plainly that if the Administration does not desire the disappearance of this industry from France it must aid the pork manufacturers by such action as will hinder, if not prevent, the (to them) detrimental importations from the United States.

I, of course, can not know that it was in answer to these appeals that the minister issued the decree prohibiting the entry of American pork into France, but it is a fair subject for argument. If this was true it shows that the decree was passed more in the interest of the pork manufacturers than for the benefit of the public health. I do not say that the evidence I have herewith presented proves this conclusively, but it certainly tends that way. It shows the interested appeals for aid

by the pork manufacturers.

If this evidence shall be as convincing to the Department as it has been to me, it will open with renewed vigor the question of reprisals, and, looking to that end, I am preparing a report on the falsification and adulteration of French wines and liquors, which I had intended to have included in this. I will send it as a supplement.

MEAT PRICES IN FRANCE.

The prices paid in France for meats for the table are much higher than in the United States. In Nantes, a city out of the current of tourists, the prices of meats are higher than in the markets of either New York, Philadelphia, or Washington.

I furnish the market reports of November 10, 24, and December 1, for beef, yeal,

and mutton on foot; live-stock market.

Beef.—Average weight, 1,300 pounds; price, \$97.50; per pound, 7.5 cents. Veal.—Average weight, 140 pounds; price, \$14.70; per pound, 10.5 cents. Mutton.—Average weight, 100 pounds; price, \$9; per pound, 9 cents.

Marche de la place Talensac-Abattoir.

Meat dressed and sold by the carcass or side:	Cents.
Beefper pound.	
Vealdo	
Muttondo	14 to 22
Porkdo	10 to 13

Retail butchers' shops.		
Beef:	Cente	8.
Soup jointper pound.		
Boiling piecedo		20)
Roasting piecedo		
Steak do	23 to	50
Veal do		27
Muttondo	22 to	30
Ham:		
Frenchdo	. 35 to	38
Englishdo	38 to	50
Bacon do	30 to	35

The business of meat dealer, butcher, etc., is one of the best in France, and it is said that a reasonably sharp and saving butcher expects to retire at the end of ten years or less, with a fortune of from two to three hundred thousand trancs.

These prices prevent the use of meat among the common and laboring classes as a regular article of diet, as known and practiced in the United States.

This state of things might be corrected by the competition from importation, but France, as is well known, has seen fit to prevent competition so far as American pork is concerned by prohibiting its admission into the country on any terms; this on the alleged score of its alleged unhealthiness.

PROHIBITION OF AMERICAN PORK.

In this communication I propose to show some of the influences brought to bear to obtain and continue the decree of prohibition, and believe it will have an impor-tant bearing upon the action of the United States in respect thereof. The integrity of the French Government in pas-ing the decree is nowise questioned, but the evidence will show, I think, that there were influences brought to bear upon it and its representatives other than those interested for the public health; influences in favor of the French hog; influences of self-interest endeavoring to procure prohibition, either directly by a decree or by a tariff making importation impossible, and thus to save from ruin a French industry which acknowledges itself unable to support itself without State aid, or to successfully compete with a similar industry from the United States. The evidence will show that this, even more than the health of the public, was presented and used to obtain the decree.

PORK AS EATEN IN THE UNITED STATES AND FRANCE.

Some preliminary propositions concerning the latter, the health question, I desire to present, not discuss. They must be admitted: they can not be denied.

1. American pork is no more liable or likely to contain triching than that of any other country. The parasite is introduced into the live hog through his stom-

ach, and with or by means of his food.

The opportunity for its introduction is quite as good in Europe as in America. A hog will be a hog, wherever he is raised. He does not receive in France that care and attention as in either his food or cleanliness which will make him the superior of the American hog. The number of hogs in the United States can not be much under 50,000,000. The principal portion of the pork produced therefrom is consumed at home, pork being one of the standard articles of diet of the people, and no ases of trichinosis are known in the entire country.

American pork is, in the United States, a cheap, healthful, and satisfactory food

for the people.

If the same pork is not or is reported to be not equally healthful in France, the cause must be either the prejudice of the people or their manner of cooking or

eating the pork.

It is also true that the curing and preparation of pork for foreign markets in the great pork-packing establishments of the West is carried on with a care and attention not exceeded in the world, and which leaves nothing to be desired on the score of cleanliness or healthfulness.

The mass of the people in the United States bestow greater attention at greater expense and are more fastidious as to the kind and quality of their food than the

same class in Europe.

Much food here used would be rejected in the United States.

2. The science and experience of all countries teach that the only danger from trichine in any pork arises from the savage and barbarous practice of eating it raw; that it is quite as safe as other meat when eaten as is other meat and as becomes civilized beings; that exposure to heat of 60 or 70° C. less than necessary for proper cooking is amply sufficient to destroy all vitality in the trichinæ and

render the pork innocuous.

The French minister of agriculture and commerce declared this and recommended it in his circular of February 14, 1881—four days before the decree of prohibition. It is reenforced by the latest French authority—report of the director of the municipal laboratory of Paris for 1882, page 442, analysis of food and drinks. Uncooked and uncleaned pork stand together. A person uncivilized enough to eat pork raw is in or may be in danger from trichinæ. One who eats it uncleaned is in danger from the bristles.

Uncooked and unclean pork are equally unhealthy, and equally disgusting; triching and bristles equally dangerous when the pork be eaten raw or dirty.

I have but little patience with a people who require the prohibition of all of a certain kind of meat in order to preserve themselves from maladies arising from

eating it raw.

The civilized world will agree that there is squeamishness and caprice in the policy of a government which prevents its people from eating American pork, and yet permits its capital city of Paris to make a record of "meat consumed" during the past two years as follows: 1880, 9,012 horses, 307 asses, 32 mules; 1881, 9,273 horses, 349 asses, 31 mules.

HOW PROHIBITION WAS SECURED.

I now proceed with the evidence, heretofore mentioned, of the interested influ-

ences brought to bear to secure the decree of prohibition.

1. I find extending through the business community a general and widespread dislike and opposition to the American tariff, so far as it may affect any article exported from France, and a disposition to retaliate.

The report of the Chamber of Commerce of Nantes for 1879, page 14, on the sub-

ject of sardines, says:

"This industry demands that when the Americans strike our products with a duty of 50 per cent ad valorem, and go with their salmon and other preserved fish to compete with our products, even to Australia, we should strike their products with an equal duty on their entry into France."

The subject of the American tariff is fully considered in a communication set

out at length in the report of the same chamber for 1878.

It was on the occasion of a meeting called to secure the influence of the same chamber in favor of the commercial treaty between France and the United States, well known in our country by the connection of M. Léon Chotteau therewith. The conclusion was against the treaty, because in the proposed tariff certain articles were to be admitted into France at a less rate than into the United States, notably silks, wines, brandles (spirits). They declare this inequality to be shocking and offensive (l'inégalité la plus choquante organisée au préjudice du travail français), and conclude with the hope they will never (jamais) find an assembly which will impose it on the country.

2. This feeling of dislike and opposition is intensified by the situation in regard

to American pork. Here is shown the willingness to retaliate.

The failure of the French pork trade because of the competition of the United States and the agitation of the subject of state or legislative interposition and aid

dates as early as 1877, four years before the decree.

The Chamber of Commerce of Nantes in its report for that year (p. 18, part 1) complains to the minister of agriculture and commerce that, as to the bacon and pork for the navy, American pork received too much consideration and favor, and the home product not enough.

In the report proper (Appendix, pp. 18, 19) the pork industry is described as in a situation "deplorable."

"The American bacon and lard are imported on such conditions as render competition on the part of our merchants nearly impossible.'

The subject is continued in the report of the chamber for next year, 1879:

We have been repeatedly approached during the year 1879 by the pork and bacon merchants with complaints relative to the fatal consequences produced upon that industry by the insufficiency of the customs duty imposed upon American pork.

"We have transmitted these complaints to the minister of commerce, insisting that they should be taken into serious consideration. Afterwards we addressed ourselves directly to the president of the tariff commission of the Chamber of

Deputies.

"The following is the letter written to him by us on November 6, 1879. This letter reviews and completes the observations we had submitted to the minister of commerce July 18:

" [The letter.]

"NANTES. November 6, 1879.

"Monsieur Le Président: The attention of the Chamber of Commerce of Nantes has been brought frequently during several years to the prejudice which has resulted to our pork manufacturers from the tariff to which foreign importations of the same industry are subjected in France.

"The origin of the crisis which has brought about the successive disappearance

of our establishments goes back to the decree of October 5, 1854.

"That decree provided for the admission in France of American pork on payment of a duty of 50 centimes per 100 kilograms (220 pounds), though the French pork had to bear a duty of 5 francs per 100 kilograms for the tax on the salt em-

ployed in its preparation. # * *

"This state of things subsisted for a long time in spite of the protestations reiterated from the French pork manufacturers; and the anomaly of which they complained was never ended only by grace of the law of March 24, 1874, by which the duty on foreign pork was raised to 4.60 francs (92 cents). Unhappily the alleviation which should have been procured for our merchants by this return to a more equitable tariff was only momentary, and the situation has returned to its evil state.

"The causes to which to attribute the present decadence of the pork industry are many, but we believe they are all founded on the competition with the pork

made in the United States of America.

"By the favor of nearly absolute freedom enjoyed by them during twenty years the importations have developed into proportions more and more grand, and when the tariff of 4.60 francs was established it had become impossible to divert this invasion of our market unless by more energetic means.

"The stoppage produced by the law of March 21, 1874, was only momentary, as will be shown by the following table of the importation of salt pork and lard from

the United States.

"Our figures are extracted from the tables of general commerce of France; they represent the quantities consumed (special commerce).

Description.	1872.	1874.	1876.	1878.
Salt porkkilograms Grease and larddo	10, 229, 397 19, 162, 711	4, 079, 139 10, 676, 562	5, 269, 960 16, 865, 569	28, 102, 290 34, 725, 635
Total	29, 392, 108	14, 755, 701	22, 135, 559	62, 827, 925

"This considerable progression in the importation of American bacon and lard sufficed to give birth to a crisis in our similar industry, but the conditions following which were developed and the particular circumstances, of which we will say a few words, have greatly aggravated the effects.

a tew words, have greatly aggravated the effects.

"The tariff of 4.60 francs which was laid upon American pork upon its entry into France represents scarcely, as we have said above, the tax on salt paid by our pork merchants (manufacturers), who found themselves in reality without any

protection against the foreign competition.

"Now, to give the principal reason for the situation, it will suffice to compare the price of sale in our own markets of the American products with the price (net cost) of French bacon and lard:

[Abstract taken June 30, 1878.]	Francs
American pork, price current at Havre Pickled pork made at Nantes	104.00
Loss	81.19
American lard, at Havre Lard made at Nantes	99.00 139.00
Loss	40.00

[&]quot;We reproduce here these figures, Monsieur le Président, extracting them from a letter which was addressed to Monsieur le Ministre last 18th July, and of which

we remit you a copy: they will suffice to explain the substitution of the foreign

for national products in the domestic consumption of France.

"Still, the superior quality of French bacon and lard, and particularly those of our region, will be in the nature of a counterbalance, to a certain measure at least, to the bait of cheapness of similar products from America.

"Our products were in great demand by the merchant marine; they made an object of regular exportation to the French colonies, and until lately many of our

neighboring countries addressed themselves to our manufactories.

"Actually the outlets to our trade are in a great part closed. The merchant marine has been itself subjected to a crisis of extreme rigor, and, like everything e.se, is condemned to the strictest economy. Our colonies, because of the tariff system which detaches them from their metropolis, import the American pork direct from that country, or else purchase under the name of French pork that which has nothing about it French but the brand.

"As to the other foreign countries it is, if possible, worse yet. Alarmed by the cases of trichinosis which had been pointed out to them, either in America or in the countries importing American pork, Italy, Portugal, and Greece have prohibited the entry of American pork, in any of its preparations, into their respec-

tive countries.

"We communicate to you the text of the decision of those Governments on this

subject.

"We will remark. Monsieur le Président, that Italy and Portugal have not stopped with the exclusion of American pork, but have at the same stroke excluded French pork, though it has never had a single case of the terrible malady from which the country is so willing and has such good right to preserve itself.

"As far as concerns Greece, the proofs demanded touching the origin of all other than American pork, and the suspicion in that country, which only imports these meats for their own consumption, renders the importations of our manufacturers

extremely difficult.

"It follows from this aggregation of circumstances, Monsieur le Président, that our pork manufacturers see themselves in competition with the supply of American products, which is here made the more considerable, as the other markets commence to refuse the suspected meats.

"The French market escapes us at the same time as foreign markets.

"Then, unless the Government and our parliamentary assemblies do not wish to aid in the disappearance of an industry as considerable as that of which we speak, it is indispensable that it and they should come to its aid by an alteration

of the customs duties.

"It belongs, therefore, to the commission of which you are the president to appreciate the observations which to you have been presented by the delegates from this industry, and which tend to the elevation of the customs duty to 35 francs (\$7) per 100 kilograms upon American pork and lard." * * *

"[Continuation of report, p. 43.]

"It is possible that the distrust excited by the American meats may be impressed with a certain exaggeration, but it is nevertheless true that the facilities of introduction accorded by us to their preparations injure our manufactures to a sensible degree in our domestic markets, and stop their exportation to foreign markets.

"These things constitute for the pork industry of France an exceptional situation, and, as we have written to the minister of commerce, October 31, it is regrettable that an industry, of which the interests are attached so intimately to agriculture and the public health, should see itself sacrificed to the profit of a commerce in suspected products, and rejected for that reason by the neighboring countries."

Another part of the same report for 1879, speaking directly to the minister of commerce, etc. (Appendix, p. 19), says on the subject of "salt pork for the navy

and merchant marine:"

"We can only repeat here what we said last year on the subject of this industry. The commercial outlets are nearly closed in France because of the competition of

the United States and by the distress of the merchant marine.

"It will be vain for us to expect a foreign demand for an article which has failed in France. Our colonies are provisioned directly by the United States, and the European markets refuse in great part to receive any salt pork in fear that it may be infected with trichinæ. America therefore causes our manufacturers a direct loss in substituting her products for our own in France and the French colonies, and an indirect loss in making them victims of the suspicion of which American pork is the object in Spain, Italy, and other countries. * * *

"When the last of our manufacturers of salt pork shall have closed their doors,

the administration will have lost the possibility of recourse to a cooperation of

which the last war demonstrated the utility.

In the following year, 1880, the subject is again taken up by the chamber of commerce; and here let me remark that the report of the chamler consists of two distinct parts - one a report to its members and the public of its doings during the past year; the other, a report to the minister of agriculture and commerce. being a résumé of the past and recommendations for the coming year.

"[Report for 1880, p. 37.]

"We have renewed to the tariff commission of the Senate the observations which we submitted to the Chamber of Deputies, in the interests of the French pork manufacturers, the industry of whom is more and more menaced by the development of American pork.

"[The letter.]

"NANTES, November 18, 1880.

"Monsieur Le Président: The 6th of November, last year, we wrote to Monsieur le Président of the tariff commission of the Chamber of Deputies, to call his attention to the deplorable situation of the pork industry.

"We have the honor to transmit the text of that letter, which is inserted in the

works of our chamber of commerce for 1879, p. 39.

"We can not, Monsieur le President, but maintain the observations which we have suggested concerning the decadence of an industry heretofore considerable in our region. This industry is menaced with complete annihilation by the competition of the United States of America.

"In effect, the introduction into France of the American salt provisions under

the duty of 4.60 francs has a continually increasing importance.

"From 4,000.000 kilograms, figures of 1874, it has attained those of 28.000.000 kilograms in 1878, and the table of 'commerce general of France' acknowledges for the year 1879 an importation of 31,784,913 kilograms of salt bacon from America. These figures are of the 'commerce special,' and consequently represent the salt provisions for consumption.
"It belongs to the Parliament to fix the limits of the protection, which is the

legitimate right of the French manufacturers, but it is important to remember that the actual duty of 4.60 francs which is imposed on the salt pork from America

makes no protection for our manufacturers.

"This tax is paid on Freuch salt pork as well as on that coming from America, and represents the impost on the salt employed in the preparation of the French

"Referring again to our letter of November 6, 1879, etc."

"[Continuation of report (to minister), Appendix p. 16.]

"SALT PROVISIONS FOR THE ARMY AND NAVY,

"The situation of our salt-pork industry is in nowise ameliorated. In the French market our salt pork is subjected to the competition with similar products from America, and is rejected in other countries, which, refusing to receive the American bacon infected with triching, refuse ours also, for the reason that they can not distinguish by the eye the suspected meats freely introduced into France. whether for consumption or reexportation,"

The foregoing action of the chamber of commerce and the French pork manufacturers seems to have been legitimate, and, so far as appears, not a subject of It consisted of a declaration of failure on the part of the latter, an admission of their inability to compete with the United States, and an appeal for state aid in form of a protective tariff increasing the present by 800 per cent,

which would be, and was intended doubtless to be, equivalent to prohibition.

While triching were mentioned in those appeals, it is only incidentally, not as a reason for prohibition; no cases cited, and it is not pressed upon the attention

of the minister of agriculture and commerce.

The manifestos were addressed both to the minister and to the tariff commission, the latter having then under its consideration a complete revision of the French tariff, which culminated in the law and decree of May 8, 1881.

The commission and both chambers remained deaf to all these appeals, decided in favor of cheap food for the people, made no change in the duties on American pork, and refused the desired aid to the French pork manufacturers.

The minister then took the matter in hand, and the result was the two decrees

of February 14 and 18, 1881, the latter being the decree of prohibition.

What relation there may have been between the appeals of the French pork manufacturers, and what influence the demand for aid to prop up and save from ruin and disappearance a French industry may have had upon the passing of the decree of prohibition I have no knowledge, but two things seem certain: (1) That these appeals for aid were made or communicated to the minister; (2) that the decree passed gave to the French pork manufacturers the desired state aid in a manner equally if not more effective than that of prohibitory tariff, which had been refused.

The circular of February 14, 1881, and the decree of prohibition four days after, February 18, are doubtless well known to the Department and need not be herein set forth, but as pieces of evidence they are valuable, for considered together and unexplained they are anomalous, if not contradictory.

The decree of prohibition having been passed, and the end of the French pork

manufacturers attained to even a higher degree than they had asked in these communications, their only care now was to guard and protect the decree and its operations, the former from rescission, the latter from infraction.

I continue my translation of evidence from the same chamber of commerce,

written just after the passage of the decree:

"Opening our eyes to the dangers to the public health by the circulation of meats containing trichinæ, the Government is interdicting their introduction into our country, yet the interdiction provides for no inspection of English meats. There is much to fear that the American products will continue to be imported, at least in a certain preparation, under the denomination of English products.

"It belongs to the administration to baffle and thwart these frauds."

Then follows in the same old vein an appeal to obtain for the Nantes pork manufacturers the contracts for supplying the army and navy with salt pork and

At the close of the year 1881, the chamber of commerce, recounting the affairs of the year to its members and to the public, reports the following concerning

my subject (p. 102, report 1881):

"A decree dated February 18, 1881, rendered on the proposition of Monsieur Tirard, minister of agriculture and commerce, has prohibited the importation

into France of salt pork coming from the United States of America.

"This interdiction was moved because of the malady known under the name of trichinosis, with which the meats of that country were attacked or suspected.

'The measure in question became attenuated in the practice by the creation of special laboratories charged with the examination and verification of salt provisions presented on our frontier.

"Finally, to complete and generalize, within the necessary limits, the institution of these laboratories, Monsieur le Ministre of commerce has presented, November 26, 1881, a project for a law providing for microscopic inspection.

"Monsieur Tirard having been replaced as minister of commerce by Monsieur Rouvier, this projected law has been withdrawn by the Government. On that occasion we submitted to the minister the following observations:

"NANTES, December 3, 1881.

"MONSIEUR LE MINISTRE: In the course of the session of November 21 last, Monsieur le Président of the Chamber of Deputies communicated to his colleagues the text of a decree by the terms of which 'was retired the project of a law relative to the establishment of a service of inspection of pork coming from foreign * * presented to the Chamber of Deputies November 5, 1881, by the minister of commerce and of finance.' The public has interpreted the act as a prelude to the abrogation of the decree of February 18, 1881, which interdicted in all France the importation of pork (salted) coming from the United States of America.

"The projected service of inspection has the double purpose to guard the public health against the consumption of unhealthy meats and at the same time to give satisfaction to certain commercial interests to which the absolute prohibition of

American pork causes prejudice.

"We regret, Monsieur le Ministre, that the greatest part—too much the greatest part—was made by or on behalf of that commercial interest aforesaid; for, as we have endeavored to show you, the decree of February 18, 1881, responded also to serious and commendable interests.

"Before the prohibition of salt pork from America was pronounced in France it had already been prohibited in many European countries, notably in Germany, Italy, Spain, and Turkey.

"At the same time that they interdicted American pork they interdicted also French pork, not because it was considered as unhealthy (that was never suspected), but because France, receiving pork from America, to change the barrels or the marks was easy, and sufficed to make an error as to the true place of its manufacture when sought to be imported into these countries.

"To preserve themselves surely from American pork they felt themselves obliged

to interdict also French pork.

"The pork manufacturers of our neighborhood have, then, demanded of us, Monsieur le Ministre, to represent to the Government the grievous situation in which they are placed. Competition at home with American pork exempt from the duties on salt—they scarcely pay that much customs duty—and chased from the foreign markets by the fear which is inspired by these same preparations, our people lose their opportunity in the foreign markets, while the salt provisions imported from the United States to France are there consumed, which crushes the price of the French products.

"In this juncture our fabricants must cease their work, and the closing of their manufactories will cause, or has caused, in this region much difficulty among our agricultural population. These things were known to and appreciated by your

honorable predecessor.

"It appears to us desirable, Monsieur le Ministre, before giving aid to the demands of, or in the interest of, the American pork manufacturers and importers, that the Government render to itself an account of the conditions in which one of our national industries contests and competes for the furnishing of food for our country.

"These conditions are truly painful. Then, when all the French products, and particularly all provisions imported to the United States of America are subjected to an exaggerated and excessive customs duty, is it a good time to enlarge the

French market in favor of analogous products which come from that country?

"Some persons have invoked the interest of the consumer as a justification for the proposed anomaly. Certainly no one would dream of proposing anything against the interest of the consumer, but will it be well served by giving encouragement to some exotic preparations that the most part of the countries of Europe hold in suspicion and the low price of which is definitely explained by their infe-

rior quality?
"We estimate and hope that such matters will not induce the Administration to resign itself to the principle of laissez faire, and that it will preserve our nation by means of its attentive control against the allurements of cheapness of an article dangerous to the public health. In the present case the Government in accomplishing this rôle will hinder a little, without doubt, the commerce in American provisions, but the measure which it will take can never be equivalent to the excess of protection in America, and we have nothing to fear from the pretended reprisal which some people say the United States may contemplate against our

"We come now to demand of you, Monsieur le Ministre, not to welcome or receive the attempts that have been or will be made to obtain the abrogation of

the decree of the 18th of February, 1881.

"The decree is, perhaps, susceptible of attenuations, and the projected law was prepared by your honorable predecessor to that end. Whatever measures may be taken by which its disposition will be replaced, the Government will take account of the different national interests involved.

"Those of the public health are here in accord with those of the French manufacturers and of the numerous workmen thus engaged, and also the interest of the

agricultural classes.

"These will not be sacrificed, we have confidence, neither on the complaint of certain importers of foreign provisions nor from the chimerical fear of reprisals, nor yet from illusory hopes of a treaty of commerce with the United States.

In the same report, speaking directly to the minister, the chamber says (pp.

11, 12):
"That the pork industry has not recovered from the situation regrettable, in which it has been placed for a long time by circumstances of divers natures. This situation would have been more unfavorable yet if the importation of American salt provisions had not been hindered or prevented by the measures of wise precaution to which the administration has had recourse for the preservation of the public health.

This ends the quotations, running through five years of reports, and ending only

with that of last year, published last August.

To show the importance of the subject-matter, I have tabulated the importations of American pork and lard from 1872 to 1881-now, thanks to the decree of prohibition, I suppose, entirely ceased.

From 1872 to 1878 I have to depend upon the statements of the chamber of

commerce, pages 15, 16, of this report.

I have no means of verifying this. The returns from 1879 to 1881 may possibly contain some fresh meat. The tableau general of commerce does not give them separate, but the amount of fresh meat imported into France from the United States is very little.

Years,	Pork.	Lard.	Value.
1872 to 1878	Kilograms.	Kilograms,	Francs.
	47, 680, 886	81, 430, 477	180, 204, 304
	32, 594, 184	37, 229, 104	77, 888, 074
	34, 720, 221	42, 105, 990	83, 194, 067
	17, 699, 249	37, 290, 559	65, 870, 780
	132, 694, 540	198, 056, 130	407, 057, 225

Eighty-one and a half millions of dollars represents the pork and lard commerce of the United States with France during the period above mentioned. The loss to the United States of this amount of French commerce is the effect and result of the decree of prohibition of February 18, 1881.

Thus is formulated in dollars and cents the complaint of the United States

against France by reason of that decree.

The difference in price in favor of American pork and lard for the same period is stated, page 16, by the Nantes Chamber of Commerce, at 31.69 francs per 100 kilograms of pork and 48 francs per 100 kilograms of lard, so that-

Amounts.	Francs.	Dollars.
132,694,540 kilograms of pork, at 31.69 francs	42, 050, 899 79, 222, 452	8, 410, 179 15, 844, 490
Total	121, 573, 351	24, 254, 669

These figures show at a glance the difference in price between the American pork and lard during the period mentioned and the same amount of French pork. American pork and lard has undersold French pork and lard during that time by the amount aforesaid, and thus is formulated in francs (and dollars) the complaint of the French pork manufacturers.

This closes my evidence on this branch. It has been somewhat voluminous, but I have remembered and have acted upon the rule of evidence which prohibits the introduction of a portion only, but requires the presentation of the entire document, so that no one can complain of unfairness in my having kept back any por-

tion unfavorable to my side of the case.

These reports cover five years or more of time. There are many repetitions, but they are repetitions and reiterations of the objectionable argument, and prove beyond cavil the position of the chamber of commerce to have been inimical to the United States on the ground of self-interest, and that they sought to prevail upon the minister of agriculture and commerce to secure the intervention of the Government in their behalf, which was finally done by his decree of prohibition,

and with which they were satisfied.

A summary of their polition was as follows: The French pork manufacturers were in a failing condition, threatened to close their doors and suspend business; that the prime cause of their failure was their inability to compete, either in France or her colonies, with American pork manufacturers, who could undersell them at from 30 to 40 francs per 100 kilograms; that the situation has become "deplorable," and unless they received aid or protection from the Government which should hinder or prevent (entraver) the importation of pork and lard from the United States, their establishments must close, their workmen be discharged, and their industry disappear.

Whether these representations thus reiterated induced the minister to whom they were addressed to issue a decree of prohibition, I suppose not to be suscep-

tible of proof.

It is significant, however, and suggestive, that while the aid and protection of a high tariff should not have been granted by the Parliament, which would thus seem to have acted in the interest of the consumers rather than in the interest of the pork manufacturers, the same benefits should have been granted to the latter much more effectively by the minister of agriculture and commerce by his decree

prohibition, though he based it upon different ground.

The benefits thus granted were thankfully accepted by the pork manufacturers, and they became at once the most ardent advocates of the decree and the most strenuous opponents of its repeal, strengthening the minister in adhering to the decree, and advising him not to yield to intimidation by the United States under any (to them) apprehended threat of reprisal, nor yet that he should be beguiled by any illusory hopes of a commercial treaty.

The right of the French Government to pass the decree of prohibition of American pork and lard, and the remedy of the United States against it, are questioned

beyond the province of a consul to discuss, and I shall make no attempt,

The chamber of commerce suggests the possibility of reprisals as a remedy. It is not unknown to me that a retaliation has been proposed by a prohibition on the part of the United States of French wines and liquors, and reports have been made touching their healthfulness, looking toward a prohibition on the same ground as the prohibition of American pork from France. If I were a statesman, as I am not, I should not seek for any such articles as would afford the excuse of unhealthfulness to justify the prohibition, but would choose one without any such cause, and prohibit its importation, calling it a reprisal, and placing it squarely on the ground of retaliation for the unjust prohibition of an equally healthful article of food from the United States into France.

But as French wines and liquors have been so mentioned, and might with great propriety be chosen as proper subject for reprisals. I submit the annexed report as to their effect upon the public health and morale in France.

I content myself with reporting such facts as I may be able to gather, without attempting any elaboration of argument, leaving that entirely to the Department, but endeavoring to place in its possession the material necessary to enable it to arrive at a satisfactory conclusion.

THOMAS WILSON, Consul.

ADULTERATION OF FRENCH WINES AND LIQUORS.

[Continuation of Consul Wilson's report on American pork versus French wines and liquors,]

Second part.

That the unjust prohibition of the importation of American pork into France, made, as it was, under the plea of public health, but in effect protecting French pork manufacturers, continued, as it has been, when every explanation and proof as to healthfulness and cleanliness has been made public, might be followed by a policy of reprisal by the United States Government against some article of French manufacture, should not be unexpected.

The French have themselves suggested this possibility. (Chamber of Com-

merce, Nantes, 1881.)

This portion of this report is intended to deal with this question in its relation to French wines and liquors to show that they have been adulterated, have been made deleterious, if not poisonous, and as such exported to foreign countries, the United States among the rest: and if the policy of represal should be adopted that

French wines and liquors, as at present manufactured, would be a proper subject. The evil effects of adulterated wines and liquors in France might be compared with those charged by France to trichinosis in American pork. The magnitude of the one and the insignificance of the other may be shown at a glance, and will

be apparent on a moment's consideration.

Take the crimes perpetrated, the punishments inflicted, the deaths caused, the su cides committed, the insanity produced (quite as grave effects as can be attributed to any cause) by the consumption and use of wines and liquors in France only; waive the amount of unhappiness and misery caused, the degradation produced, the blasted hopes, the ruined families, because they can not be calculated; take only those susceptible of being taken from the statistics of crime and compare these with the entire number of cases of sickness or death arising from trichinosis caused from the consumption and use of American pork, and the difference becomes apparent at a glance.

CRIMES OF DRUNKENNESS IN FRANCE.

Evil effects in France only arising from the improper use of wines and liquors, compiled from the lutest official reports taken for 1880, or the yearly average.

		Year.	Page.	Num- ber.
1.	Crimes committed while under the influence, waived because the statistics are not specific			
2.	Accidental deaths	1880	205	449
4.	Misdemeanors combined with and aggravated thereby; disorderly street rows in the night: fights. Simple cases of excessive drunkenness; yearly average convictions since. Suicides arising from excessive use; yearly average since	1880 1873 1875	25 77	785 422 799
6.	Insanity from alcoholism (I have not the exact figures, but it is 14 out of every 100 cases yearly), average cases		104	455

These are the figures at the minimum, and from them it will be apparent at a glance that there are a greater number of cases in France in one hour, possibly in one minute, than there are of trichinosis in a year. The wider the comparison is extended the greater and more apparent becomes the difference. So that if the policy of reprisal shall be adopted by the United States and placed, as was the prohibition of pork in France, on the score of public health, the choice of wines and liquors as its subject would seem to be justified to such extent as that France could be estopped from making any complaint.

HOW WINES AND LIQUORS ARE ADULTERATED.

The successful adulteration of wines and liquors requires both the professional learning of the chemist and the technical knowledge and experience of the wine merchant.

Prohibited by law, rejected by the public when known, it will only be performed

in secret and as one of the mysteries of the laboratory.

To discover and detect it in particular or specific cases requires professional knowledge of a high order, the possession of that sharpened, educated or, rather, experienced taste which is almost equivalent to a sixth sense, and to these must be added the authority of the law by which private premises may be invaded and private property examined.

Few persons in France combine these qualifications, and I make no pretensions to be one of them. I shall not attempt to give private or secret information, nor

to make specific or particular examinations.

Everybody knows, or says, that the wines and liquors of France are adulterated, and they deprecate it, but the consumption and use of the adulterated article goes on much the same as if no adulteration existed. I shall endeavor to give some information from statistics furnished by French authorities, and so not to be controverted, showing the extent to which this adulteration is carried, and in some slight degree its effect upon the people. It would be as:de from my purpose to make, or allow to be made, any comparison of French liquors with those of the United States, or to assert that ours are better than theirs. Our liquors in our own country are our own affairs. Not until we seek to introduce them into France will she have a right to complain of their quality or examine as to their purity. Because of this condition as against France I exercise this right and make this report.

Other consuls have made reports on the same subject, and one of the leading journals in France in that interest, the Revue des Vins et Liqueurs. in its last number, has made these reports a subject of criticism in a long article entitled "The hog and the vine." In this article the questions put by the Department in its confidential dispatch to its consuls in France were quoted at length, and the whole subject of adulteration and reprisals argued from the standpoint of a French

wine merchant.

Some of its admissions concerning adulteration and falsification of wines and liquors, coming with its authority, are valuable contributions to the side of its opponents. The editor advises naturally enough against reprisals by the United States. He says:

"These reprisals are of doubtful taste, and it is never prudent to enter on this

path. What, for instance, would the United States say, if, to their prohibition against wines, France replied by establishing an inspector against tinned meats, against grain cargoes No. 2, or cotton, products which the French and foreign trade, rightly or wrongly, accuse, more or less justly, of being adulterated by the American shippers.

"Were it not better, since the cause our friends sustain in demanding the abolition of the prohibitory inspection is a just one, to convince the French Government of its error, raise a movement of public opinion, and, lastly, have recourse to the regular means which their genius as a practical people may suggest to

them?"

Of course, the policy of reprisal is not to be lightly entered upon, nor until the attempt "to convince the French Government of its error" be made and exhausted. This attempt has been continued for now nearly two years without any perceptible effect. How long would the Revue des Vins have it continue? And when all efforts have failed must it not end in reprisals as the means of redress? This has been admitted by the Chamber of Commerce of Nantes, and now again by the Revue des Vins.

If the Revue objects to wines and liquors being chosen as the subject of reprisals, it and its friends of that interest might act on its own advice: "Raise a movement of (French) public opinion and convince their own Government of its error," secure the abolition of the pork prohibition, and thus prevent reprisals from either

side.

The report of the consul at La Rochelle is noticed as follows, and it shows in

some degree the offensiveness of the entire criticism:

"Alone, the diatril e of the consul at La Rochelle seems at first sight worthy of consideration, but we are obliged to challenge him on account of reasonable suspicion, for we believe we know him to be a native of Maine and consequently a bigoted teetotaller."

"Diatribe" is a hard word to apply to a report made by a United States consul

to his Government. but "let the galled jade wince."

The consulat La Rochelle needs no detense at my hands. He is well able to defend himself. Besides, that charge will do him no harm at his home and where he is

known, and there none can be made which will do him harm.

I have cited this to enable me to discount any similar opposition which this report may meet by saying in advance that I am in favor of temperance, that I am opposed to intemperance, and that I think it a dreadful evil—a crume justly punishable by law in France, entailing misery on its victims, unhappiness on their families and friends, filling the prisons, almshouses, and lunatic asylums, begetting a large portion of the necessity and the expense of criminal procedure in the state, and to be attacked and suppressed by any legitimate means which

promise success.

Is the Revue des Vins opposed to this? Does it favor intemperance? Holding this belief, yet I am not a bigot, and am willing to agree that the wines of France, in their purity, are healthful, palatable, and agreeable, and that the southern portion of France, where there is more wine raised, either actually or proportion ally, than in any country in the world, is, without any temperance society, one of the most temperate, having in proportion to its inhabitants fewer cases of drunkenness, of crime, of accidental death, of suicide, or insanity, from the use of spirituous or alcoholic liquors than a'most any other. If I were writing an article on temperance I would elaborate and prove this statement. I make this concession to the Revue des Vins, and close it by making my charge, i. e., that the great curse and blight, and the one to be prevented, arises in France from the adulteration of wines and liquors otherwise pure and the manufacture and doctoring of those inherently bad. Will not the Revue des Vins and the wine interest aid in its prevention? And, if so, are we not in accord?

A frequent response made to this charge, especially by French manufacturers to American importers or purchasers, is that if the buyer will deal with only the best houses and is willing to pay for the best wines and liquors, he can always secure that which is pure and will run no risk of getting adulterated or poisonous compounds. But this begs the whole question, for what should be required and enforced is that the wine merchant shall not be permitted to either make or sell those poisonous compounds, not even to those who from ignorance or cupidity might desire the cheaper article; that the drinker shall not be permitted to purchase, even though he may desire, poisonous compounds under the name of wine and liquors because he can get them at a low price. Least of all should the seller be allowed to sell them as pure. If there is demand for the adulterated, poisoned, or diluted liquors, let them be sold as such, and not represented and sold

as pure.

A butcher will not be allowed to sell tainted meat, nor a baker bread made of alum, though they offer them never so cheap.

THE FAILURE OF THE WINE CROP IN FRANCE.

France is the greatest wine-producing country in the world. The total production and commerce in wine for 1882 amounted to 2,056,692,491 francs. One hundred years ago she produced 25,000,000 hectoliters. This increased in regular gradations until it culminated in 1875 in 83,632,391 hectoliters. The average crop

from 1870 to 1875 was 58,000,000 hectoliters.

In 1879 commenced seriously the ravages of the national plague—the phylloxera. Without study one can not appreciate the extent of the ravages, nor the great damage this inflicted on France. In 1879-80 it utterly destroyed 1,250,000 acres of full bearing vines. It seriously damaged about 1,250,000 acres more. It reduced the wine crop to 25,000,000 hectoliters in 1879, being a loss of about 800,000,000 gallons, to say nothing of eaux-de-vie, cognac, etc.

In 1880 the wine crop reached 29,000,000 hectoliters, in 1881 to about 38,000,000 hectoliters, and in the past year, 1882, the same, 38,000,000, being less than half a crop for the past four years, and entailing a yearly loss averaging 25,000,000

hectoliters.

However interesting, it would be foreign to this report to follow the various means taken for the extermination of this insect; to tell of the Government commission, of the scientific examinations, of the syndicates formed among the owners, or of the methods adopted.

Isolated efforts were vain. General and united action was the only hope for relief. The result shows such improvement that we may hope the devastation has

been stopped and the devastator conquered.

In her calamity France has had the sympathy of all peoples, from none more than the United States, and in her efforts for redemption she has their encouragement. Had this failure happened to the grain crop, even for a single year, what distress and ruin would it not have caused? When continued for four successive harvests it would have produced a famine at which the world would have stood aghast. From such failures of its great crops of wheat, or corn, or cotton the United States would not recover in a decade of years.

EFFECTS OF THE FAILURE OF THE VINE IN FRANCE,

On the wine growers sad enough, doubtless, for they could neither raise their usual crop of grapes nor could they use the ground occupied by the vines to plant anything else; and their efforts for the extermination of the insect must have been very expensive. Great excitement it doubtless caused; attracted the attention of the Government and of the world. Yet this immense failure of from five hundred to eight hundred millions of gallons, continued year after year, has had no perceptible effect on the quantity of wine drunk, the facility with which it can be obtained, nor the price to be paid for it.

The consumption of wine has maintained itself at about its average, diminished some years and increased others, but not more change than before the failure of

1879.

In Paris the average consumption of wine for each inhabitant amounted in 1877 to 212 liters; and in 1876, it was 230; and in 1878, 224 liters.

In the country it was, for 1876, 140 liters; 1877, 128; 1878, 124; 1879, 116 liters. In the eight largest (octroi) cities of France the consumption of wine has diminished but 3½ per cent, while the consumption of alcohol has increased 31 per cent. The average price of wine exported was as follows for 1879 and 1881:

1879, Bordeaux wine, in barrels, per hectoliter, 115 to 130 francs: in bottles, per hectoliter, 150 francs; all other wines, in barrels, 50 francs: in bottles, 225 francs. 1881, Bordeaux wine, in barrels, per hectoliter, 140 to 145 francs: in bottles, 165

francs; all others, in barrels, 55 francs; in bottles, 225 francs.

This shows the slight increase of from \$1 to \$3 per 22 gallons, certainly not famine prices.

The exportations have maintained themselves about as has the consumption;

fallen off slightly in some kinds, but increased in others.

The statistics will vary in the calculations of different persons, for the entries are varied under so many items; wine, Bordeaux and other, in barrels, in bottles; eaux-de-vie, cognac, etc., all spirituous liquors under different names, and the statistics consequently susceptible of infinite variety.

The exportation in francs shows an increase thus:

Wine: 1876	Francs.
1877	216, 200, 000 225, 500, 000
1878	207, 100, 000
1879	264, 900, 000
1880	254, 600, 000 264, 200, 000
Of wines and liquors, total export:	204, 200, 000
1877	285, 800, 000
1881	332, 300, 000
The exportation, in quantity, is thus:	
Of Bordeaux wine:	Hectoliters.
1878	
1881	1, 165, 575
Increase	128, 145
Of other wines:	
1878	
1881	1, 360, 055
Decrease	347, 919

Many of these statistics are given with accuracy and particularly in the tables appended to this report, and which I have taken from the tableau général of com-

merce for the respective years.

Here the round numbers were sufficient for my purpose, which was to show a decrease neither in consumption nor exportation, nor that increase in price which usually follows failure of crops for even one year, but which, if continued for three or four, results in famine. How have the wine merchants of France been able to keep the supply equal to the demand?

How has this great feat been accomplished? The recuperative power of France after one year's war with Germany, and her ability to make the most out of the least, were at once the wonder and the admiration of the world, but in the case of failure of the wine crop she has shown unexpected recuperative power, and the

ability to continue it for an indefinite period.

How has she been able to accomplish it? To solve this economic problem which so worried the Israelites during the last years of their sojourn in Egypt, to learn this secret of making something out of nothing and be able to follow their illustrious example in case the United States should be unfortunate enough to lose its crops for continuous harvests, will surely be worth while.

How has this been accomplished?

Answer. They have imported in large quantities the cheap, heavy wines of Spain and Italy. They have imported raisins from Greece and Turkey, soaked them and expressed the juice, and to these bases they add alcohol, coloring matter, and water in all imaginable proportions, kinds, quantities, and degrees, and thus they manufacture what they call wine, sell for wine, and export to the United States for wine.

This is not the first time the above question has been asked.

In the Journal Officiel, the same paper, and on the same day in which was published the decree of the minister of agriculture and commerce against American pork. February 18, 1881, appear the debates in the senate of France on the subject of the new tariff.

The president of the tariff commission, Monsieur Pouyer-Quertier, made a speech in which he set forth the true condition of France and appealed to his col-

leagues to meet the tariff question fairly. He said, page 133:

"I have seen on the quays of Bordeaux, and I believe I can see the same to-day, a quantity of wines of Spain which had come to the borders of the Garonne. I asked of the Bordelais if perchance these wines, worth only 80 to 85 francs per hectoliter, had not come to Bordeaux to breathe the air of Garonne and be transformed into Medoc.

"These, perhaps, are the wines which come to-day from Spain, and which after

a certain cure are again exported.

"This represents a certain benefit, for we must admit that this wine contains alcohol to 15 degrees, and that with one barrel of it and one of the water of the Garonne they make two barrels of wine."

The minister of agriculture and commerce, who had that day signed the pro-

hibition against American pork, replied:

"I remark to the Hon. M. Pouyer-Quertier that it is a singular fashion to defend the industries of a great country like France to come here and tell appropos of our wines of the melanges which are made with the water, the mixing * * * (protestations from divers benches) [Several senators: "All the world answer it."] [Monsieur le ministre, continuing:] * * * and to come here, to thus discredit, in this tribune, the French products destined for foreign countries. In truth, it is a singular fashion for him to proceed (more interruptions). You understand that since two or three years, either from phylloxera, from frost, or from dropping of the fruit, we have descended from an annual production of 60,000,000 hectoliters to 28,000,000. It is incontestable that we have not produced the same quantity of wine, and although we may add water, it is still necessary to seek in foreign countries that which we have lost. We introduce the wines because they are necessary to our people. In 1876, and before, we imported no wines, because our harvest was abundant and we had no need of them."

This is enough for my purpose. I need follow him no further. It is a confession of my charge, made by the highest authority in the state, and it was in

answer to the direct question.

INCREASE OF WINE IMPORTATIONS.

For specific information I refer to the tables in the appendix. I only give here general results.

We have seen that in 1876, and before, no wine was imported.

Year.	Wine only.	Wine and liquor, total importa- tions.
1877	Francs. 34,800,000 64,400,000 126,700,000 320,900,000 375,700,000	Francs. 54, 506, 000 88, 279, 000 155, 760, 000 359, 791, 000 410, 004, 000

Total increase in all kinds of wines and liquors since 1878, 6,342,510 hectoliters and 315,807,121 francs. Increase in vin ordinaire alone since 1878, 6,179,028 hecto-

liters and 296,312,280 francs.

The total importations of vin ordinaire in casks—I do not speak of bottled wine; it would not be used for adulteration or manufacture—for the year 1881 amounted to 7,700,000 hectoliters, valued at 346,516,000 francs. Of this, 2,274,206 hectoliters came from Spain and Italy, valued at 336,271,447 francs, being an increase over 1878 of 5,731,000 hectoliters and 262,000,000 francs.

In the meantime the exports of wine from France to Spain and Italy decreased

3,000 hectoliters.

By what might be called a remarkable coincidence this great increase in importation arrived principally at the port of Bordeaux. In 1881 the importations of wine and spirits at that port amounted to 2,942,272 hectoliters, at 97,028,137 francs, which had been an increase over 1878 of 2,785,000 hectoliters and 87,404,958 francs.

The exportations from Bordeaux did not keep pace with this enormous increase in importation. The wine exported was, in 1878, 1.151,000 hectoliters, at 92,000,000 francs; in 1881, 1,173,000 hectoliters, at 135,000,000 francs; being an increase of only 22,000 hectoliters, but of 42,000,000 francs.

Of spirits there was a decrease of 23,000 hectoliters and an increase of 5,000,-000 francs, the aggregate being a decrease of 1,300 hectoliters, but an increase of

47,000,000 francs.

In 1881 the importation of raisins (dry) amounted to 68,000,000 kilograms, at a value of 37,500,000 francs, of which Greece and Turkey furnished 58,500,000 kilograms.

Raisins, mashed or bruised, in casks, amounted the same year to 431,000 liters,

at 64,000 francs.

The wine produced from raisins in France in 1881 is stated at 2,430,000 hectoliters.

These facts explain how the deficit caused by the failure of the wine crop has

been made up. Thus the tableau général of the commerce (special) of France for 1881, the last one issued, shows:

Description.	Hectoliters.	Francs.
Importation of wine Exportation of wine	7,883,867 2,572,196	363, 923, 855 252, 815, 794
"Marchandises étrangères nécessaires à la consommation française".	5, 266, 711	111, 107, 794

France has the reputation of being a wine-exporting country, but this table shows that she is a larger importer than exporter; that the balance of trade against her on wine is no less than 137,000,000 gallons, valued at 111,000,000 francs.

The importation of wine from Spain and Italy amounted in 1881 to 7,700,000 hec-It would not be fair to say this was all used, or to be used, in the manufacture of French wine—"to breathe the air of the Garonne and be transformed into Médoc." For though the bottled wine, amounting to 345,000 quarts or liters, has been excluded, yet it would include the sherry and Malaga wine in casks. But it would be fair to say that the increased importation was for that purpose.

This increase from 1878 to 1881 of vin ordinaire only, in casks, amounted to 6,179,028 hectoliters; wines made from raisins, 2,430,000 hectoliters; total, 8,609,028 hectoliters. According to Pouyer-Quertier they add an equal quantity of water, 8,609,021 hectoliters, making 17,218,056 hectoliters, or about 460,000,000 gallons added during the year 1881 to the wine crop of France by manu acturing process.

The foregoing statistics do not prove, I admit, all this imported wine to have been "manufactured" into French wine, but I have said this transformation was one of the secrets of the laboratory, and not to be discovered by ordinary means. What wine merchant from France, or anywhere else, would furnish information, much less proof, that his French wine had been by himself or by anyone else manufactured, doctored, or diluted from Spanish, Italian, or raisin wine?

One who demands specific proof of this shows that he does not desire nor intend

to be convinced.

I have shown enough to raise a presumption of its wholesale manufacture.

I have shown (1) the failure of the crop sufficient to produce a famine; (2) no diminution in either consumption or exportation; (3) no corresponding increase in price; (4) an immense increase in importation of the (known to be) heavy wines of Spain and Italy, and (5) the entire making of the crop of raisin wine, the two latter being in sufficient quantities in the aggregate to make good the deficit; (6) that the charge of this wholesa'e manufacture was made publicly in the Senate of France, and several senators shouted in support of it that "all the world knew it to be so;" (7) the minister of agriculture and commerce, replying to the senator, did not deny the charge, but upbraided the senator for making it, and said if it was true it had its justification.

These are. I think, enough to create the presumption and put the onus on the

wine merchants.

The adulteration of wine naturally belongs to "ways that are dark and tricks that are vain," and it is not possible that the proof can be obtained and made clear, as in many other offenses against the law.

Recognizing this fact, the law of France, C. P., article 423, makes the mere having, with intent to sell, any adulterated or falsified food, medicine, or drink, an

offense equal to that of the adulteration or falsification.

I have said that the criticism of the consular reports of the Revue des Vins contained some important admissions bearing on this subject. In reading this, forget not that they come from the highest representative of the wine interest in France, and are contained in its reply to similar charges made by other consuls. It says, November, 1882, page 881: "It is certain that there is made in France a considerable quantity of adulterated wines, although the last crop yielded 38,000,000

"One estimates the production of raisin wines at 2,400,000 hectoliters. That a portion of this goes to the United States is possible, even probable, though in our opinion the proportion is very small.

"It is purely a question of price. As to brandies, we do not deny that it is possible there are brandies shipped that have very little connection with the wine from which they are supposed to proceed."

On page 668 it gives the wine product of 1881 at 38,000,000 hectoliters, and then says: "This is only wine from grapes, but beyond this genuine wine growers have made 2,000,000 hectoliters of artificial wine by pouring sugared water on the residue." Here let me repeat a story told by the newspapers apropos. A wine grower sold three-fourths of his crop and then filled up the casks with sweetened water. His neighbor twitted him that the mélange was not wine. demanded he, "il tache le linge"-"it will stain the tablecloth.

It seems to be considered as wine through all its dilutions and ablutions while

it will continue "tacher le linge."

The Revue, same page, gives thus the total production of wine for 1881, as

zonows.	Francs.
Natural wine, 38,000,000 hectoliters, valued at	1,540,000,000
Production of wine from sugar and water	80,000,000
Production of wine from dry grapes	48,000,000
Importations	
Total	1,860,629,749

FALSIFICATION OF FRENCH WINES FOR THE UNITED STATES.

One of the consuls of France in the United States, I believe at San Francisco. sent a report to his Government concerning the falsification of French wines imported into the United States. This report was deemed of sufficient importance to be made the basis of communications between the ministers of foreign affairs and of commerce, and by the latter to the chambers of commerce at Rheims and Bordeaux. The two former I have not seen, but the latter is published in the Revue des Vins:

> MINISTRY OF COMMERCE, Paris, August 29, 1882.

MONSIEUR LE PRÉSIDENT: It appears from a communication which has been made to me through the ministry of foreign affairs that the imports of champagne wines into the United States from 123,574 baskets during the first six months of 1881 have fallen to 104,755 during the corresponding six months of the current year, a diminution of 28,219. This result, according to American papers, is due not only to the competition of California wines, but is also due to the bad quality of the articles imported into the United States by our manufacturers of champagne, who, after having made a mark appreciated by the public, only send wines of an inferior quality.

Under these circumstances consumers fall back on imitations, which are not

much worse than the imported article, and cost less.

The same remarks would apply, though in a less degree, to the wines of all growths.

As to the California wines, it is considered that the white wines especially are

improving in quality.

The red wines, notwithstanding the peculiar taste due to the soil or the process of manufacture. are preferred by many to the Bordeaux wines, called cargo wines, which are of middling quality and relatively high price. *

The Minister of Commerce.

PIERRE LEGRAND.

I have nothing to do with the quarrel which grew out of this communication in Rheims, nor yet with the champagne wines to which it refers, but as to Bordeaux the Revue explains, page 670:

'The part of the circular relative to Bordeaux wines is partly (well) founded. as cargo wines can no longer be shipped at same prices as before for similar qualities, owing to bad crops and the phylloxera, which would have no sense if refer-

ring to champagne wines."

The Belgian Government has taken substantially the same view I have tried to present, and has attempted in some degree to provide a remedy by a bill introduced on March 24, 1882, by the minister of finance, under the title of "Excise duties on the fabrications of wines from dried fruits." It was a blow aimed at all manufactured wines.

Monsieur Girard, director of the Laboratoire Municipal at Paris, of which I

shall have occasion to speak further on, commenting on this subject of adulteration of wines, says in his report for 1881, just published. p. 40:
"Fraud alone, fraud on a vast scale, furnishes the key to this enigma. It is by the illicit operations that certain manufacturers (or dealers) come to make their fortune at the expense of the public health, at the expense of the interest of the State and its cities, at the expense of the agricultural and commercial prosperity of France."

THE MANUFACTURE OF WINE-ITS FALSIFICATION AND ADULTERATION.

Wine, properly defined, is that alcoholic liquor which results from the fermentation of the juice of fresh grapes.

Falsification or adulteration is the addition of any substance which changes the

composition of the natural wine.

A French chemist once said:

"Wine is a mixture of alcohol and sugar andwater; but," added he, "mixing

alcohol and sugar and water will not make wine."

He who supposes that the juice of the grape is wine, or that by letting it ferment it will always make wine, is much mistaken. As well might he say that to open the throttle-valve of a locomotive a given distance it would make the run between two cities or stations by itself.

Both the grapes and wines have their maladies and their peculiarities, which sometimes are intricate and unmanageable, and need the utmost care and atten-

tion.

After the juice has been expressed, and in the cask, the most difficult and deli-

cate portion of the task begins.

To make good and palatable wine, keeping it pure and healthful, and to do this To make good and palatable wine, keeping it pure and healthful, and to do this continuously, without loss, is as much a trade or profession as any. To do it well requires aptitude, study, and patient, intelligent labor, long continued.

The palate must be educated to the same degree of fineness as is required by a singer of his voice or by a musician of his ear.

I give all credit to the honest wine makers.

What I condemn are the wine falsificators—those who make unhealthy and impure wine by unlawful and improper means.

Wise her hear falsified and adultowated in all ages, but partil twenty years age.

Wine has been falsified and adulterated in all ages, but until twenty years ago it was done so clumsily that its detection was easy. Most wine dealers would detect it by its taste, or, if not, at the expense of a piece of cream of tartar.

All this has been changed. Now the falsificators profit by and make use of all the progress of modern chemistry, and the art of making wine without the juice

of the grape has attained such a degree of perfection and skill that experts, epicures, and chemists alike are baffled and hesitate before pronouncing.

Monsieur Girard, director of the Laboratoire Municipal at Paris, probably the foremost authority in Europe, or the world, who denounces adulteration, in his last report (for 1881). p. 93. follows the same line I have pursued concerning the importation of Spanish and Italian wines, and gives a table, such as mine, showing the progression from 1875 to the first nine months of 1881, and then says:

"These wines, rich in alcohol and extracts, are mixed with inferior, in an opera-

tion called coupage.

"The coupage practiced by honest dealers who sell their wines for what they are is perfectly lawful, for their aim is to ameliorate and render proper for consumption those wines which can not be easily utilized as they are.

"Unhappily, the greater part of the heavy wines of Spain. Italy, and the south of France serve for a coupage in which water takes a large place; this operation

takes the name of mouillage, and is the plague of the commerce in wines.

"The syndicate of wholesale wine and liquor merchants of France has energetically demanded its repression. (Session of June 16, 1881, p. 66.) Generally the mouillage is not made alone. Those who practice it almost always find themselves compelled to go further in their fraudulent operations. The water is clear; when they add too much to the wine it weakens the color so that it is perceptible. which, in its turn, must be corrected by the addition of heavy wines or some of the many coloring matters used for that purpose.

"After attempting to pass a large quantity of water under the name of wine they add to the mouillage the alcohol, of an inferior quality, of potatoes or beets, which contains alcohol amylique, which produces a drunkenness far worse than that produced by the alcohol of wine. These, with all their ramifications, are not the only falsifications: the body, the aroma, the bouquet of the finest qualities of grand wines are imitated on a large scale by scientific processes.

"The ethers, ananthique, pelargonique, etc., of the wine are counterfeited by

the mixing of other ethers and essences which are prepared artificially.
"The report of the 'Commissione Supérieure de l'Exposition de Vienne.' vol. 1, p. 289, tells of the institute at Closterneuberg, Austria, where they make the extracts or ethers ænanthiques which reproduce the bouquets of the most renowned

"The fabrication of piquettes (poor sour wine) from dried fruits or raisins has still more complicated the problem; these piquettes, cut with one-half or twothirds of red wine from the south of France or Spain, whipped and filtered, constitute the heavy merchantable wine which can be mixed with light wines, or, more frequently, with water. The piquette has completed the means of action for the falsificator; it gives him the extracts, tartaric acid, tannin, glycerin, etc., which before he had not been able to procure.

"Each day the chemist is met by new difficulties: he is obliged to labor without cessation to perfect his methods to combat those who dishonor science by using

her to perpetrate frauds.'

I have said that I had introduced enough proof to raise a presumption of a wholesale adulteration of wine in France and to put the onus of explanation on

her wine merchants and distillers.

This last piece of testimony confirms and makes positive the charge against them. All that now remains to establish their guilt and complete this trial is to catch them in the act, which I now propose to do.

CONVICTIONS FOR ADULTERATIONS.

The offense proven, the law of France is very stringent against all deceit, fraud, adulteration, or misrepresentation as to anything sold. Article 423, Code Pénal, provides: Whoever shall cheat or deceive a buyer as to the title, etc., or as to the nature, etc., or (by false weights or measures) as to the quantities of anything sold shall be punished. etc. Law of March 27, 1855: Whoever falsifies or adulterates provisions or medicines, or sells or attempts to sell what has been falsified or adulterated shall be punished, etc. The fine is to be not less than 50 francs, the imprisonment from three months to one year. If the adulteration consists of anything unhealthy, the fine shall not be less than 150 francs and the imprisonment may be two years. For second offense, double maximum punishment. The articles sold are to be confiscated, and, if not unhealthy, given to the bureau of charity; if unhealthy, destroyed, all false weights and measures to be broken. (Law of May 5, 1855.) The former laws are made applicable to all drinks.

What has been the operation of this law? There have been convicted as follows:

Yearly average of convictions:

1851 to 1855.	6,780
1856 to 1860	
1861 to 1865	
1866 to 1870 1871 to 1875	
1876 to 1880	

These have not all been condemned for adulteration of wines and liquors, nor yet for drinks, for it includes the adulteration and falsification of food and

medicines, as well as drink.

The adulteration of these articles is determined by analysis, and each department has its conseil of hygiene, which has control thereof. When a case is reported by the conseil or any of the inspectors, after analysis, the prosecuting officer of the Republic takes it before the court. Consequently the action is spasmodic, being

determined by each department for itself.

The department of Loire Inférieure became interested in the matter of adulteration of wine and liquors through the action of some of its influential citizens, more especially the doctors of medicine, who reported many cases of sickness which presented curious and unaccountable phases, from causes apparently undiscoverable, until their attention was attracted to the quality of the wine used at table and for daily drinks.

This interest culminated in a general inspection, in 1876, of the restaurants and other places where wines and liquors were sold. This inspection was principally for wines colored with fuchsine, it being known or determined that no combination of that article but was poisonous. The result of that inspection was as

follows:

Number of establishments inspected	300
Number of establishments seized	60
Number of hectoliters confiscated.	3,307
All heing wine fuchsing	

This wholesale confiscation satisfied the people and the authorities and frightened the wine dealers, so that no steps have been taken in that direction in a public or general way since.

These wines were largely wines coming from Spain. Some of them were mixed with French wines, but they point with creditable pride to the fact that but one case was of Bordeaux wine. If this practice prevailed in Spain to the extent indi-

cated in the year 1876, when the harvest of wine was good and before there was now, after four years of failure, when the imports have increased, as heretofore shown, and when Bordeaux has so changed as now to be the great receiving depot of Spanish wine, where it comes "to breathe the air of the Garonne and be transformed into Medoc?" any extensive importation of wine from Spain. what may we not expect it to be

What may have been the action in other cities, except Paris, I have no means

of finding out.

ANALYZATION OF FOODS AND LIQUORS IN PARIS.

In Paris there has been established the Laboratoire Municipal, a city laboratory, which has been in operation since March, 1881. It operates only for Paris. It receives and analyzes any article of food, medicine, or drink, requiring pay in certain cases, and without in certain others. As this establishment has met much approval, it has been recommended by several consuls for adoption in the United States, in which I heartily join. I may be pardoned for a short description:

Personnel.	
	Francs.
1 chief, salary	6,000
1 subchief	4,500
1 chemist, first class	2,400
3 aids, second class. 8 experts, inspectors first class.	5, 400
8 experts, inspectors second class.	14 400
3 laborers	4, 500
Material used	20,000
Expense for one year	76, 400
Receipts.	
The paid analyses were	6,200
Fees paid into court in cases of conviction	10,815
Total	17.015

There were received 6,251 samples (in 1881), from which were made 37,506 trials or analysis. The cost of each sample was 10 francs. The cost of each analysis was 1.69 francs. The money received (as above) reduced these costs, respectively, to 7.48 and 1.25 francs.

The operations of the bureau are purely scientific and advisory. It institutes no prosecutions. It makes its exam: nations and reports the results to those authorized by aw to act. It inspects premises and analyzes samples therein found or which may be brought to it by private persons or by the police.

The operations for the ten months of 1881 were as follows:

By the police and inspectors Total.....

Number of inspections made.	
Markets Restaurants, wine and liquor merchants, creameries and milk shops Salt-meat shops Bakers, pie and cake shops Groceries and fruit stands Breweries and cafes	3,869 10,698 522 830 4,461 4,275
Total visits	24, 655
Samples presented for analysis. By the public: Paid for	378 8 958

1,290

1,510

3,286

6,086

Of the above 24,655 visits the inspectors made 394 destructions of articles manifestly damaged and unfit for use.

Result of the analyses of ten months, 1881,

Description.	Good.	Pass- able.	Bad.		
			But not poison.	Poison.	Total.
Wine Vinegar Beer Cider Cider Sirup, liquors Water Mik and cream Butter and cheese Bread, pies, and cake Meats, salt Preserves Salt, pepper, spices Coffee, tea, chicory Chocolate Cooking utensils Divers	45 55 39 45 37 26	1,093 31 10 10 32 11 177 12 13 10 7 13 14 10 63	1,709 26 29 30 53 542 29 11 21 82 7 38	• 202 1 1 9 9 63 25 45 1207	3, 361 80 88 55 134 92 1, 037 71 69 86 71 140 51 83
Total	1,565	1,523	2,608	562	6, 258

¹Principally articles of perfumery.

Proportion of samples found "bad" out of each 100 analyzed.

	Per cent.
Wine	59.17
Milk	50.66
All	50.43

The manner of procedure would be foreign to this report, however interesting it might be, and would extend it beyond bounds. I have given the foregoing in detail that the workings of the laboratory in its cost and its effects upon the public health may be appreciated. The operations for 1882 will be given with less detail. I am not able to give either the number of prosecutions, convictions, confisca-

tions, or destructions for 1881.

Operations for 1882.	
Aggregate of samples analyzed	000
Of wine only (December, estimated): Good	888
Passable	603
Bad: 2,208 Poison 413	
	621
Total	112
Operations for six months, from June to December, 1882.	
Establishments visited 20, Captures made 3, Destructions performed	756 211 989

Poison 977

Total analyses for six months

Result of analyses of all samples:

Proportion bad, 54 per cent.

Passable

Bad:

The Laboratoire Municipal is not charged with the prosecution of the offenders it discovers. It only reports them to the prosecuting officers of the law. It consequently has no record of convictions: but in a private interview the director announced that they had reported during 1882 to the procureur de la Republique 4,000 cases, of which prosecutions had been instituted against about 2,000 offenders, of whom only two were acquitted.

It may not be fair to say that 50 per cent of all wine in commerce is bad because that per cent proved bad on analysis, for it is probably only the suspected wines

which are sent for analysis.

The truth is bad enough without exaggeration, and it is enough that there should have been sold or offered for sale in Paris in the past year, to 2,621 unsuspecting people, wine that was bad, and of which in 413 instances it was dangerous

But I venture to say that the greater proportion of these samples of suspected wines is of the class of cheap wines to be found in every-day use at the restaurants and cafes and among the people. So that, as there is more cheap wine than highpriced, if there were a compulsory analysis of all the wines in use, the proportion

of "bad" as above given might be maintained.

I do not even suggest, though I have no means of knowing, that the high-priced wines would not stand the analysis. I think, at least hope, they would. The wine maker and wine merchant are interested in preserving them in their purity. When red wines of 1881 can be sold by the lot of 20 casks at 5.500 francs per cask, and white wines same year at 4,000 francs, as was done at Bordeaux this season, the dealer can not afford to have them tampered with.

If purchasers should find themselves deceived but once, they would reject it

entirely.

EFFECTS OF CONSUMPTION OF WINES AND LIQUORS.

The following table gives (by sections) the average yearly consumption (1) of wine, (2) of alcohol, (3) of the proportion of cases of drankenness in each section of France:

Section of France.	Average yearly con- sumption of wine for each in- habitant, 1873.a	yearly con-	Proportion of cases of drunk-enness.b
1. North wine district 2. Northwest wine district 3. Northeast wine district 4. Center wine district 5. Southwest wine district 6. Southeast wine district 7. South wine district Average for all France	126 118 165 168	Liters. 5.61 4.40 2.40 1.53 87 1.07 1.19	34 29 10 9 5 9 4

a Dr. Lunier, Production and Consumption of Alcoholic Liquors in France, 1877, page 94. b Report of minister of justice, 1826 to 1880.

I call attention to the differences in the foregoing table between the districts which grow wine and those which do not.

Drunkenness in public was not punished as an offense until the law of	I 18/3.
Convictions: 1878 1874 1875 1876	86, 418
1877 1878 1879 1880	84, 893 71, 972 65, 989
Total for eight years	
Average annual	

¹ Report of minister of justice, 1826 to 1880.

The minister of justice, in his report for 1826 to 1880, devotes a chapter or section to drunkenness, one to accidental deaths and one to suicides, with a reference to insanity, and the deductions from the one to the other as cause and effect are as follows:

While the number of cases of drunkenness has decreased from 98,000 in 1875 to 60,000 in 1880, a falling off of nearly 40 per cent, yet the number of cases of suicides from alcoholism has increased since 1836 483 per cent, nearly quadruple, while suicides from mental alienation have increased only 188 per cent.

Accidental deaths have remained at the same per cent.

Insanity from alcoholism has increased from 7 per cent (7 cases out of each 100) to 14 per cent, and, strange to relate, suicides from crossed love have been reduced

from 11 to 4 per cent.

Whether this increase in the evil effects of intemperance is attributable to the use of drugs in the wines and liquors or to a change in the habit of drinking, is a subject for the examination of the political economist and the labors of the philanthropist. It may have been the result of both. It is quite enough for my purpose that adulteration shall have contributed its share.

CONCLUSION.

It will not be supposed that I have made the examinations and expended the time and labor necessary for the preparation of this without having some opinions. On the subject of reprisals, however, I offer none. I have endeavored only to procure the evidence and present the facts, leaving the decision thereof entirely to those having proper authority.

On the subject of adulteration of wines and liquors, I would recommend the

establishment of a chemical laboratory at New York, or any chief city of importation of wines and liquors, similar to that in Paris.

Analyze all wines and liquors by proper tests; provide as a system of rewards and punishments a graduation of duties, lower for pure wines, higher for passable, and confiscation for all others: those poisonous to be destroyed, and those not poisonous to be rectified if possible and sold, and the proceeds divided as in other

cases of confiscated goods.

Let the laboratory be used by the people gratuitously for the testing of all articles of food, drink or medicine, suspected to be adulterated. While the United States Government might not desire to attempt any punishment for the adulteration, preferring to leave that for the State governments, yet I believe the knowledge that such tests could be accurately made would be such a satisfaction to the consumer and such a terror to the adulterator, thus acting as a preventive of crime, that it would be a good investment and more than justify the expenditure. It would also act as an incentive to the State government, by showing to what extent the evil existed.

THOMAS WILSON, Consul.

UNITED STATES CONSULATE, Nantes, January 10, 1883.

APPENDIX I.

The wine product of France.	
	Hectoliters.
1788	25,000,000
1840	45, 486
18501	45, 266
1860	39, 558, 450
1870	53, 537, 942
1875	83, 632, 391
1877	56, 405, 363
	48, 720, 553
1878	
1879 2	25, 769, 532
1880 2	29, 677, 472
The average product—	
From 1866 to 1870	55, 562, 046
From 1871 to 1875	58, 032, 074
From 1876 to 1880	40, 483, 937
A LOTAL LUTO DO LOCO COMO SECUCIONO CON CONTRACTOR CONT	10, 100, 001

¹⁸⁵⁴ and 1855 were failures, producing only ten and fifteen million hectoliters. ² Failures.

Average	annual	product	of Euro	ne.

2200 ago anima product of Darope,	
	Hectoliters.
France	51, 359, 352
Italy	
Spain	
Portugal	
Austria-Hungary	22, 640, 000
Germany	6, 501, 000
Switzerland	
Dwarin and Transact Transaction	0 124 000
Russ a and Turkey, Europe	2, 134, (00
Greece	
Roumania	661,874
Total	134, 456, 901
	,,
Duty paid on wine in France.	
Daily paid on wine in Prince.	D
	Francs.
1860	176, 414, 128
1870	223, 693, 103
1875	386, 026, 000
1877	
1878	
1879	421, 786, 748

APPENDIX II.

Exportations of all the wines and liquors from France during the years before and since the failure of the wine crop from phylloxera, commencing in 1879.

	18	78.	18	1879.	
	Hectoliters.	Francs.	Hectoliters.	Francs.	
Vin ordinaire: From Girondecasks All other places do Girondebottles Othersdo	91, 138	76, 721, 347 56, 873, 597 13, 715, 688 47, 542, 595	1,334,199 1,359,689 103,635 204,401	122, 225, 01 67, 984, 44 15, 545, 29 45, 990, 25	
Total Eaux de vie: Du vin	4,360 27,569	194, 853, 227 43, 519, 992 16, 315, 997 94, 741 610, 442 3, 859, 713 1, 182, 455	3,001,924 218.719 66,948 432 4,966 31,359 18,300	251, 745, 010 68, 354, 98; 21, 056, 056 97, 23; 695, 37; 4, 390, 27; 1, 226, 070	
Grand total		260, 436, 567 285, 800, 719		347, 564, 010 276, 445, 419	
	188	80.		1881.	
	Hectoliters.	Francs.	Hectoliters.	Francs.	
Vin ordinaire: From Gironde		112, 960, 915 52, 871, 786 17, 595, 092 56, 008, 652	1,060,917 1,188,531 104,658 221,524	116, 705, 168 62, 619, 194 17, 268, 583 49, 842, 956	
Total Eaux de vie: Du vin	160, 392 60, 654 425 44, 352 34, 249	239, 436, 445 48, 070, 324 18, 485, 984 106, 235 609, 322 4, 794, 990 1, 336, 143	2, 425, 630 153, 928 61, 835 572 4, 582 36, 039 15, 729	246, 435, 890 42, 908, 567 18, 129, 473 128, 777 733, 176 5, 045, 500 1, 101, 056	
Grand total		328, 338, 108 363, 522, 379		314, 482, 452 328, 338, 108	

APPENDIX III.

Total importations of all wines and liquors into France during the years before and since the failure of the wine crop from phylloxera, commencing 1879.

	1878. 1879.		1880.			
	Commerc	e special.	Commerc	e special.	Commerce special.	
	Hectoliters.	Francs.	Hectoliters.	Francs.	Hectoliters.	Francs.
Vin ordinaire: In casks In bottles Vins de liqueurs: In casks In bottles Eaux de vie (alcohol, pure): Of wine. Of cherries. Of molasses Of all others. Spirits of all sorts (alcohol, pure):	1,521,337 78,656 709 374 232 59,263 15,263 57,985	50, 204, 145 8, 652, 210 120, 569 41, 990 52, 360 8, 296, 896 1, 526, 331 4, 928, 902	2, 828, 418 2, 262 106, 447 983 777 265 69, 349 29, 020 98, 860	107, 479, 899 271, 495 12, 773, 644 177, 702 88, 668 59, 809 9, 708, 987 2, 902, 059 8, 403, 110	7, 093, 268 123, 885 920 7, 903 182 63, 802 89, 942 148, 416 987	297, 917, 248 15, 485, 661 183, 864 964, 995 41, 991 9, 579, 413 3, 994, 235 12, 615, 362
Total of wines and liquors of all sorts including beer, cider, and vinegar. For preceding year. Annual increase in importations.	1,760	528, 093 88, 279, 035 54, 506, 231 33, 772, 804	1,870	511, 282 155, 760, 984 88, 279, 085 67, 481, 899	2,857	359, 791, 742 155, 760, 934 204, 030, 808

	18	81.		importations
	Commerc	e special.	e special. from 1878 to 188 years.	
	Hectoliters.	Francs.	Hectoliters.	Francs.
Vin ordinaire: In casks In bottles Vins de liqueurs: In casks In bottles Eaux de vie (alcohol, pure): Of wine Of cherries Of molasses Of all others Spirits of all sorts (alcohol, pure) Liqueurs		346, 516, 425 446, 144 16, 735, 162 225, 854 755, 669 83, 835 10, 004, 827 1, 682, 328 13, 369, 549 744, 897	6,179,028 (1) 52,225 420 5,820 141 3,267 1,588 99,304 722	296, 312, 280 (1) 8, 082, 925 105, 285 713, 679 31, 575 1, 707, 931 155, 997 8, 480, 745 216, 804
Total of wines and liquors of all sorts, including beer, cider, and vinegar For preceding year		410, 004, 337 359, 791, 742		
Annual increase in importations		50, 212, 595		
Total increase in importation of all wind increase in vin ordinaire in casks only Increase in all others.			6,342,510 6,179,028 163,482	315, 807, 121 296, 312, 280 19, 494, 841

¹ Vin ordinaire "in bottles" was overlooked until after the additions were made.

APPENDIX IV.

Importation from Spain and Italy, showing how the deficit in France since 1879, caused by the phylloxera, has been made up.

	1878.		1878.		1880.		
From-	From— Commerce special.		Commerc	Commerce special.		Commerce special.	
	Hectoliters.	Francs.	Hectoliters.	Francs.	Hectoliters.	Francs.	
Spain Italy	1,347,644 194,782	48, 290, 310 7, 577, 811	2, 289, 716 540, 113	92,521,064 21,993,077	5, 112, 387 1, 604, 302	221, 005, 555 69, 221, 537	
	From-		186 Commerc		Increase from	n 1878 to 1881.	
			Hectoliters.	Francs.	Hectoliters.	Francs.	
Spain		5,717,938 1,556,268	264, 210, 637 72, 060, 810	4, 370, 294 1, 361, 486	197, 920, 327 64, 482, 999		
Increase in imp countries in the 1881					5, 731, 780	262, 402, 326	

Exportations to Spain and Italy, showing no such corresponding increase.

	1878.		1878.		1880.	
To-	Commerc	e special.	pecial. Commerce special. Commerce specia		special.	
	Hectoliters.	Francs.	Hectoliters.	Francs.	Hectoliters.	Francs.
Spain	4, 025 14, 364	597, 225 1, 114, 162	4,301 3,705	638, 856 603, 115	4, 794 3, 538	713, 870 583, 322
	To-		188 Commerce		Change, plus	s or minus.
			Hectoliters.	Francs.	Hectoliters.	Francs.
SpainItaly			3,672 11,607	593, 811 1, 629, 593	- 853 1-2,757	- 3,914 +515,431
Decrease in expo		e two coun-			-3,110	

⁽¹⁾ Though the price increased, the amount of wine decreased.

Importation of wine and spirits at Bordeaux, illustrating how they made good the deficit caused by the phylloxera in 1879 and subsequent years.

Description.	1878.		1879.		1880.	
	Hectoliters.	Francs.	Hectoliters.	Francs.	Hectoliters.	Francs.
WineSpirits	41, 781 114, 855	1, 446, 750 8, 166, 429	285, 930 106, 285	11, 663, 349 11, 152, 279	895, 443 178, 045	34, 045, 820 13, 386, 766
Description.		1881.		Increase from 1878 to 1881.		
		Hectoliters.	Francs.	Hectoliters.	Francs.	
WineSpirits			1, 262, 313 1, 679, 959	50, 351, 947 46, 676, 190	1, 220, 532 1, 565, 104	48, 995, 197 38, 499, 761
Increase in importis at Bordeaux years					2,785,636	87, 404, 958

Exportation at Bordeaux.

Description.	1878.		1879.		1880.	
	Hectoliters.	Francs.	Hectoliters.	Francs.	Hectoliters.	Francs.
Wine Spirits	1,151,270 117,200	92, 521, 882 15, 903, 875	1,442,424 81,601	138, 915, 160 25, 213, 518	1, 145, 667 154, 135	132, 088, 158 22, 931, 963
Description.			1881.		Increase from 1878 to 1881.	
			Hectoliters.	Francs.	Hectoliters.	Francs.
Wine			1,173,515 96,453	135, 184, 790 21, 104, 812	22, 245 23, 555	42,662,908 5,200,937
					- 1,310	47, 863, 845

Wines and liquors in entrepôt (bonded warehouse), from January 1, 1878, to December 31, 1881, both at Bordeaux and in all France.

	December 31, 1877.		December 31, 1881.	
	Bordeaux.	All France.	Bordeaux.	All France.
Wines: Ordinaire Liqueur Eaux de Vie: de Vine Molasses All others. Spirits Liqueurs All others	1,730 184 1,485 45	Hectoliters. 14, 683 5, 811 192 9, 429 11, 304 3, 889 157 76	Hectoliters. 12,828 2,838 2,79 1,433 349 2,063 32	Hectoliters. 55, 585 4, 761 936 11, 199 6, 455 14, 931 146 404

No. 23.

Mr. Frelinghuysen to Mr. Morton.

No. 207.1

DEPARTMENT OF STATE, Washington, January 17, 1883.

SIR: Your No. 270 of the 15th ultimo transmits a letter addressed to you by the

Paris Chamber of Commerce and your acknowledgment thereof.

It is courteous and at the same time natural that the distinguished commercial body in question, which so largely controls public and legislative opinion in France on matters of trade, should be pleased to express its pleasure at any proposal on our part to reduce the rates of import duties. It would be well when a similar occasion occurs to express a hope that a reciprocal feeling might be shown in France to the few exports from this country thither as compared with the many France sends to us, and that commerce and legislation alike may unite in rebuking the blind prejudice which seeks to close a large foreign market to our most important products.

I am, etc.,

FRED'K T. FRELINGHUYSEN.

No. 24.

Mr. Morton to Mr. Frelinghuysen.

No. 324.]

LEGATION OF THE UNITED STATES, Paris, April 4, 1883. (Received April 18.)

SIR: I availed myself of an occasion during a recent personal interview with Mr. Challemel Lacour, the new minister of foreign affairs, to call his attention to the subject of the decree prohibiting the importation into France of American salted meats, and subsequently addressed a communication to him on the subject, a copy of which I have the honor to transmit herewith.

In relation to this subject I have had different interviews with the representatives of the Chambers of Commerce of Paris, Marseilles, Bordeaux, and Havre,

who take a special interest in the importation of American meats, and propose to make joint representations to the minister of commerce and to originate a system of petitions among the working classes of France urging the repeal of the decree.

This move if properly directed, will be it is hoped, effective. I have been however, so often disappointed that I will not venture to count upon the success of the present movement, though it is well calculated to reach the end desired. I may add that at the conference the protection of industrial property, which was presided over by the minister of commerce, and attended by the director of exterior commerce, I insisted with both these gentlemen upon the necessity of the abrogation of the decree.

I have, etc.,

LEVI P. MORTON.

[Inclosure in No. 324.]

Mr. Morton to the Minister of Foreign Affairs.

LEGATION OF THE UNITED STATES, Paris, March 24, 1883.

SIR: I beg leave to call the attention of your excellency to communications which I have had the honor of addressing to your predecessors, Mr. St. Hilaire and Mr. Gambetta, with reference to the decree prohibiting the importation of American salted meats into France.

This decree has now been in force for more than two years, while similar prod-

ucts from all other countries have been freely admitted in France.

An examination of the subject will, I trust, not only satisfy your excellency, but also your honorable colleague, the minister of commerce, that the decree was issued under a misapprehension of the facts bearing upon the question, and that

there are no valid reasons why this exceptional measure, only applicable to the Government of the United States, should be abrogated.

The Government of the United States yields to none in its desire to protect the public health, and claims that the searching and careful investigation conducted by a most competent officer detailed for the purpose by the Department of State clearly established the unfounded and erroneous character of the statements regarding the alleged unwholesome qualities of American hog products, upon which the issue of the prohibitory decree was based. The result of the examination was presented to Mr. St. Hilaire by my predecessor, General Noyes, on the 23d of June, 1881.

I beg leave also to refer to the report of the National Academy of Medicine of France on the question propounded by the Government regarding the necessity of an inspection of foreign pork, and which, after referring to the free admission of American and German pork for many years, without inspection, and its extended use in the manufacturing and industrial districts of France, states that the disease called trichinosis, with the exception of a single case, has not been observed

in any part of France.

I can but believe that your excellency's Government will, after a consideration of all the evidence now before it, cheerfully place the Government of the United States upon the same footing as all other friendly nations by the revocation of the decree.

I avail, etc.,

L. P. MORTON.

No. 25.

Mr. Roosevelt to Mr. Davis.

No. 99.]

UNITED STATES CONSULATE, Bordeaux, April 11, 1883. (Received April 25.)

Sir: I have the honor to inclose herewith a copy and translation of a petition from the dealers in American lard and pork, at Bordeaux, to the minister of commerce at Paris, France.

I am, etc.,

GEO. W. ROOSEVELT, United States Consul. [Inclosure in No. 99.-Translation.]

PETITION OF DEALERS TO THE MINISTER OF COMMERCE.

BORDEAUX, April 4, 1883.

SIR: We, the undersigned dealers in American lard and pork at Bordeaux, have the honor to colicit from your kindness, Mr. Minister, the fulfillment of the promises which have been so often lavished upon us, by your claiming the recall of the decree of February 18, 1881.

The solution of this question can no longer be delayed; light is made. and our ports should be open to the free importation of those meats, indispensable to the nutrition of the poorer classes, and the want of which has already caused so griev-

ous a rise in the price of the food of workmen.

The spontaneous and disinterested step which has just been taken toward you, Mr. Minister, by Messrs, the president and delegates of the Chambers of Commerce of Paris, Marseilles, Bordeaux, and Havre was to give us the hope that the just claim made in such pressing terms by the most considerable personalities of the French commerce would have immediately brought forth the mere and simple recall of the prohibitive decree, and that you would thus have put an end to a state of things so fatal to the commercial and industrial welfare of our country.

But if you think of righting those just claims, we learn with surprise that you are going to study a bill which would consist in submitting the salt meats, upon their entering France, to a system of refrigeration, against the adoption of which

we hasten to protest with great energy.

We know that since several years a patent has been taken for the preservation of meat by freezing; that the proprietors of that patent have been in search of the means of making use of it, but without any apparent success; but now they wish to find for it a lucrative use and easy profits by having it adopted by the Government.

The application of that system would be disastrous and would completely impede that trade. Indeed, Mr. Minister, the excessives handling that the meat would have to go through before being submitted to the freezing, the unpacking of the cases, the hooking to the ladders for being more easily placed in the cellars, the repacking, etc., would cause such expense, such waste, and such a depreciation of the quality that it would be folly on the part of honest merchants to expose

themselves to such risks.

To those annoyances, more than sufficient to cause such a scheme to be rejected, we must add that it seems to us impossible that the meats submitted to the action of freezing and passing to a high temperature could be preserved, and we maintain that statement in spite of the experiment of the laboratory made on one single ham. That trade should then be exposed to so many uncertain and unknown chances that there would be no safety in practicing it. Of all the proposed means, refrigeration is the one which we repel with most energy; but if the greatest part of the others present almost as grave inconveniences, one only has given proof of what it is worth, that is free circulation, which for the last twenty years never gave rise to the least c'aim nor caused one single accident.

The return to common right is then the solution which we claim of your justice, Mr. Minister, as a redress for the harm done by the decree of February 18, and we claim it not only in the name of our trade, but in the name of public welfare.

That deplorable measure has, indeed, Mr. Minister, had for its effect to provoke in the American press violent and unjust attacks against all French products of food which France exports to the United States, which attacks, if they were perpetuated, would end in throwing discredit on those products and in driving them from that important market.

Besides, the retaliation, of which the United States Government did not cease to threaten French commerce, has just received a commencement of execution, and the rise of the duties of entry which strikes our wines is such as will considerably

reduce the exportation of them.

Now, we who had always foreseen such consequences to the decree of February 18, and that, in spite of interested denials, we do not hesitate in asserting that refrigeration will never be considered a reparative measure, since it will have all the effects of prohibition, but rather an indirect means of perpetuating the same, and that our Government will not succeed by such a process in forcing down the barriers which the new tariff has just raised against our products.

We well know the interest that you have in the national trade, and feel convinced that you will take in due consideration the observations which we have the

monor to present to you, and that you will kindly admit our request.

We beg you, etc.

[Signatures of fifty-five dealers in American pork and lard.]

No. 26.

Mr. Morton to Mr. Frelinghuysen.

[Extract.]

No. 333.7

LEGATION OF THE UNITED STATES. Paris, April 13, 1883. (Received April 25,)

Sir: Acting under the strange delusion which still exists in official circles, notwithstanding the overwhe.ming evidence to the contrary, that American perk is subject to trichinosis, the French department of commerce is contemplating the organization of a system of curative measures to guard against the supposed infection by submitting all our salted meats to a freezing process upon their entry into France. Whether this new device would or would not destroy trichinosis where it happens to exist it has dissatisfied all the French importers and dealers in American hog produce, who consider it as calculated to greatly injure the meat, and have protested in strong language against its application. You will find herewith a copy and translation of the petition they have addressed in this respect to the minister of commerce.

One of the leaders in this movement informs me that all interested in this business prefer simple prohibition to the apparent facilities offered by the application of the freezing process. It is the intent on of the F. ench dealers to push this matter as strongly as possible and to bring it before a cabinet meeting.

I again, a few days ago, called the attention of Mr. Challemel Lacour to this subject, and I am sorry to say that although he is personally in favor of the repeal of the decree of prohibition, and has urged it, he does not believe that his colleague will favor, at present, its abrogation. His reasons are that other countries have taken similar measures of prohibition, and the French scientists are divided upon the question of the danger which may result from the consumption of American meats.

I did not conceal from Mr. Challemel Lacour the fact that the continuance of this long-standing prohibition had already created much feeling at home, and that our people could not understand why such discrimination should be made against them, when the highest French scientific authorities had emphatically declared that the measure was groundless, and my apprehension that Congress would take some retaliatory action unless the decree was abrogated.

Mr. Challemel Lacour said he would again call the attention of his colleague to

The truth is, that the decree was rendered under the pressure of certain French packers who are still interested in its maintenance. By a strange coincidence, these very men, who are also producers of sardines and other canned articles, have been specially favored by our new tariff. *

I have, etc.,

LEVI P. MORTON.

[Inclosure in No. 333.—Translation.]

PETITION ADDRESSED TO THE MINISTER OF COMMERCE BY FRENCH IMPORTERS OF AMERICAN HOG PRODUCTS.

BORDEAUX, April 4, 1883.

To the Minister of Commerce, Paris:

Monsieur Le Ministre: We, the undersigned, merchants in American salted meats and lard at Bordeaux, have the honor to solicit your favor, Monsieur le Ministre, for the fulfillment of the promises which have been so often made to us

in claiming the abolition of the decree of the 18th of February, 1881.

The solution of this question can be no longer delayed, light has been brought to bear on it, and our port should be opened to the free importation of these provisions, indispensable to the nourishment of the poor classes, and the absence of which has already caused an increase of price, so hard for the nourishment of

The spontaneous and disinterested petition which has just been made to you, M. le Ministre, by the presidents and delegates of the Chambers of Commerce of Paris. Marseilles. Bordeaux, and Havre, ead me to hope that the just claims, made in such pressing terms by the most important personages of French trade, should have immediately brought about the withdrawal purely and simply of the prohibitive decree, and that you would have thus put an end to a state of things so

fatal to the industrial and commercial interests of the country.

But, if you contemplate acceding to these just demands, we learn with surprise that you are about to consider a project which will consist in submitting salted provisions on their entry into France to a system of refrigeration, against the adoption of which we protest with the utmost energy.

We know that for several years past a patent has been taken out for the preservation of provisions by freezing, that the owners of this patent have been seeking means to utilize it, but apparently without success, since at present they rush to find for it a lucrative employment and easy profits in having it adopted by the

Government.

The application of this system would be disastrous, and would completely damage the trade; in fact, M. le Ministre, the numerous manipulations which the provisions would undergo in order to be submitted to the influence of the cold, the unpacking of the barrels, the hanging on the ladders intended to facilitate the storage, the repacking, etc., would give rise to such expenditure, such damage and depreciation of quality that it would be foolish on the part of serious business men to expose themselves to such risks.

To these inconveniences, which are more than sufficient to cause the rejection of such a project, we should add that it appears to us impossible that provisions submitted to the action of the cold and to a high temperature can be preserved, and we maintain this statement notwithstanding the laboratory experiments on a single ham. This trade would then be exposed to so many risks and hazards that there

would be no security to engage in it.

Of all the means proposed, refrigeration is that which we most energetically reject; but if the greater part of the others present inconveniences almost as serious, one only has been put to the test, that is, the free circulation, which for twenty years has never given rise to a single complaint or caused a single accident.

The return then to the common right is then the solution which we solicit from your justice, M. le Ministre, as compensation for the harm done by the decree of the 18th of February, and we claim it not only in the name of our trade but in the

name of public interest.

In fact, M. le Ministre, this unfortunate measure has had the effect of provoking in the American press violent and unjust attacks against alimentary produce exported by France to the United States, attacks which, if continued, would end by throwing disfavor on such produce and driving it from this vast market.

Moreover, the reprisals with which the Government of the United States has not ceased to menace the French trade have received commencement of execution in the rise of the entry duties imposed on our wines, which is of a nature to consid-

erably reduce the sale.

We, then, who have always foreseen such consequences from the decree of the 18th of February, and that in spite of interested denials, do not hesitate to affirm that refrigeration can never be considered as a compensating measure (since it will have all the effects of prohibition), but rather as an indirect means calculated to perpetuate it, and that our Government can never succeed by such a proceeding in overcoming the obstacles which the new tariff has just raised against our produce.

We know sufficiently well all the interest you take in the national trade to be convinced that you will take into consideration the remarks which we have the

honor to place before you, and that you will favorably receive our petition.

We beg you, etc.,

[Signatures.]

No. 27.

Mr. Frelinghuysen to Mr. Martin.

No. 267.7

DEPARTMENT OF STATE. Washington, April 26, 1883.

SIR: Your dispatch No. 333, of the 13th instant, inclosing a copy of a petition addressed to the minister of commerce by French importers and dealers in American pork, has been read with interest as a valuable indication of the tendency of sound opinion in France on the question. I am, etc.,

FRED'K T. FRELINGHUYSEN.

No. 28.

Mr. Wilson to Mr. Davis.

[Extract.]

No. 24.]

UNITED STATES CONSULATE, Nantes, May 17, 1883. (Received May 31.)

Sir: I have the honor to inclose herewith newspaper slips containing two communications continuing the history of the agitation concerning the decree for the prohibition against American pork and the interest of the city of Nantes therein.

The first, dated March 21, 1883, is from the Chamber of Commerce of Nantes to the minister of commerce at Paris, and seems to be a reply to the communication of the Chambers of Commerce of Paris. Havre, Marseilles, and Bordeaux, of which

the Department has doubtless received information.

The second, dated April 16, 1883, is intended as a reply in anticipation to my report No. 12, December 5, 1882, the quoted notice of which appeared in the newspapers of the city. These communications are sufficiently important as giving the Department all the steps taken to justify their transmission, but scarcely sufficient to justify their translation or transmission in written form. If I should be These communications are sufficiently important as giving the mistaken in the latter supposition I will take pleasure in correcting it and sending the translations.

I am unacquainted with the Congressional documents referred to in the latter communication, and should be pleased to have them furnished. I shall attempt no reply to any of these or similar communications without instructions to that

effect from the Department.

I have, etc.,

THOMAS WILSON.

[Inclosure in No. 24.—Abstract of the newspaper cuttings sent by Consul Wilson.]

AMERICAN SALTED MEATS.

The Chamber of Commerce of Nantes addressed to the minister of commerce, under date of March 21, 1883, a letter, of which the following is the substance:

We have been informed that the Chambers of Commerce of Bordeaux and Havre have taken steps to obtain from you the abrogation of the decree of the 18th February, 1881, which prohibits the introduction into France of American lard, and that you approved of these steps.

Since the French Government, with the view to protect the people, adopted measures to prevent frightful and incurable disease arising from infected salt

meats, it appears that nothing has been done to remedy this.

Before France had prohibited the importation of American salted meats the greater part of Europe had already done so. Further than this, they had prohibited French salted meats, not that they were suspected of the infection of trichinæ, but because France had continued to receive American pork, and it was difficult to recognize the same from the foreign. Consequently we have suffered because our exports have become impossible.

It seems to us the time is badly chosen to abrogate the decree, for Germany has just prohibited American pork. England and Germany were the only countries which had not prohibited it.

We therefore pray you. Mr. Minister, to maintain the edict of the 18th of February, 1881, for the interest of public health, particularly of the workingmen.

[Signatures.]

Here, on the other hand, is the substance of the memorandum remitted to the minister of commerce by the delegates of the chambers of commerce of Paris, Marseilles, Bordeaux, and Havre the 10th of March, 1883:

We have the honor to present to you as delegates the following observations concerning the harm caused to the merchant marine, commerce, and public food by the prohibition of American salted meats by decree of 18th February, 1881.

During past years the commerce of American salted meats procured annually 50,000 tons of freight for our merchant marine, representing about 40,000,000 kilograms of meat and a value of 50,000,000 francs.

Prohibition causes us to lose annually under form of freights, duties, transportations, etc., the sum of 15,000,000 francs, a difference of about 30 per cent between the price paid in the United States and the consumer.

We will not enter upon the appreciation of the scientific discussions which preceded and followed the prohibitive decree of the 18th February, since they seem to have been definitely decided by the consulting committee of public hygiene in its sittings of the 4th August 1879, 6th September, 1880, and 4th January, 1882, which resulted contrary to prohibition, and rejected microscopic inspections, from the fact that the habitual cooking of food in our country prevents all danger.

After a complete study of the question the Academy of Medicine in Paris formed

identical conclusions, and proves equally that-

First. Trichinosis is a well-known malady, and its symptoms can not be con-

founded with any other.

Second. That in spite of all the researches made by the medical corps, whether in autopsies or otherwise, not a single case has ever been proved in France.

The academy also pronounced against microscopic inspection.

The question remains, then, is it a protective or sanitary measure? In examining the votes which were given in the deliberating assemblies it is remarked that the protectionists voted for the prohibition and the free traders against it.

You are not ignorant, Mr. Minister, that prohibition was applied following the excitement caused in the political world by the clever and energetically conducted campaign by the salters of meats, a campaign sustained by the agricultural journals and the Society of Agriculturists of France. This society is composed in a greater part by large proprietors, eager to defend the interests they represent, without considering that it is contrary to the interests of public nutriment.

We may add that while the direct importation of American pork is prohibited, this same pork comes into French territory under the name of Belgian or German

pork and is consumed without a single examination.

It is no less true that last year there was received at the market of La Villette 36,000 hogs from Germany, more or less infected with trichinæ, which was delivered for consumption without previous examination. At the same time all scientific men agree in declaring that fresh pork in which trichinæ are alive is much more dangerous than salt pork. In fact, it is only fresh pork which is dangerous. If the use of it did not cause sickness, it was simply on account of our habit of cooking.

Besides, the habitual consumers of American pork have never been frightened. It is difficult to make them believe that what they have eaten with impunity for

twenty years can be unwholesome.

The same motives which have impelled France induced Germany to prohibit American pork. The raising of pork in Germany has increased so much that it seeks foreign consumers. As we stated above, 36,000 hogs were sold at the single

market of La Villette in 1882.

The point is, Mr. Minister, that prohibition of American pork touches the economic interests in a serious manner. Prohibition, in depriving the working classes from cheap food, causes them to demand higher wages, and harmony between proprietor and workmen is disturbed, and it is vexatious to state that this comes at a time when foreign industry is making great efforts to supplant our manufactures.

Americans consider these prohibitory measures vexatious. A reduction of duties on French products in the United States is extremely desirable for us, but so long as this prohibition lasts there will be no reduction, and perhaps retaliation may

be expected.

To sum up, we request that the trade of American hog products should remain free, as it was before February 18, 1881, for we consider it is the only way in which our commerce will regain its activity and our working class cheap food.

To attain this double object it will be sufficient, first, to withdraw the project of the law laid down at the Chamber of Deputies; second, to annul purely and

simply the decree of prohibition.

The Chamber of Commerce of Nantes received a petition, which is submitted to the minister of commerce, the substance of which is as follows:

NANTES, April 16, 1883.

Some days ago we read in La Géronde, a Bordeaux paper, that the prohibition of American trichina pork would result in rendering the relations between proprietors and workmen difficult to sustain,

prietors and workmen difficult to sustain.

At this astonishing revelation we were contented to smile, thinking the cause must be a very bad one to have to resort to such arguments, the more so when we read from Mr. Baillet's essay on the inspection of meats (M. Baillet is veterinary

in chief of the city of Bordeaux):

"American salt meats will never fill an important place in consumption beyond the wants of the marine. Experience has already decided on this point. In our port we have seen some attempts to popularize these meats among the work people of Bordeaux, but without success."

We will add that since the decree of interdiction our farmers have raised hogs in such quantity that French salt meats are less in price than American, taking as

basis the Antwerp market price.

The declaration of the United States consul at Nantes that "interested influences acted to bring about the prohibition of importation of American pork" can not be We would ask if the same influences acted in other States of Europe, such as Spain, Portugal, Italy, Greece, Hungary, Austria, and Germany, who have equally prohibited the same. The Hon. Mr. Tirard, in his speech of 24th May, 1881, stated that England refused to receive American trichina pork, which they wished him to ship to France.

We can understand why the consul should ignore the sanitary edicts by different Governments of Europe. He probably knows of the numerous cases of trichi-

nosis which the American papers are full of.
We equally think that he must have heard of the report of Mr. Clipperton, English consul at Philadelphia, in which he states that 700,000 hogs died of trichinosis in 1880 in the United States, which is less than in 1879, when the State of Illinois declared that 1,391,000 hogs died of the same epidemic. The Commissioner of Agriculture, in his report for 1878, states: "In less than half of the territory of the United States the annual loss on hogs alone is \$10,094,400, which is occasioned by a malady which is not understood by farmers or hog raisers. I have thought the subject of so much importance that it is worthy of s vious study. The health of our citizens demands the finishing of this study, for it is a notorious fact that herds of hogs are transported to the nearest market or killed by their owners for shipment a soon as the malady appears among them."

We understand that the consul has no knowledge of what passed at the chamber of commerce at Havre on 5th May, 1881. "At Havre the proportion of 6 to 8 per cent, which it was at the commencement of the service of inspection of the microscopic engineers, attains to-day to 15 to 20 per cent. The Havre merchants, to simplify and hasten the reexportation of their products, agreed with the merchants of Antwerp to allow a reduction of 50 per cent on meats recognized affected

with trichinæ.

But we can not suppose that the consul has heard of the report of Dr. Detmers on trichine. Report printed with 100,000 copies by order of Congress-60,000 of which for use of members of Congress, 25,000 for use of Senators, and 15,000 for

the Commissioner of Agriculture,

After numerous accounts of accidents occasioned by trichinæ in America, the remedy proposed by Dr. Detmers, officially charged by the American Government to study the question, is: "A complete destruction of hogs in the region where the malady prevails is the only efficacious remedy. In each place where pork is raised a competent inspector should be placed, with the necessary authority to put into strict execution all the measures ordered by him. Every proprietor should be obliged by law, under severe penalties, to notify within twelve hours to the inspector of every case of trichinosis among his herds, or if he know of any existing in other herds. Every sick hog should be killed and burned, and objects which have been in contact with them should also be destroyed. All importations of foreign pork should be severely forbidden, unless it is proved that there is no contagion All other remedies are good for nothing, and the country would be in continual danger."

Such is the conclusion of Dr. Detmers, appointed by Congress to make investi-

gations on trichinæ.

No. 29.

Mr. Frelinghuysen to Mr. Morton.

No. 294.]

DEPARTMENT OF STATE, Washington, June 22, 1883.

SIR: Your No. 324, of the 4th instant, in relation to the French prohibition of the pork products of the United States from importation into France, has been received. Your note to Mr. Challemel-Lacour is approved.

When the question of prohibitory measures against imports of American pork was lately under discussion in the German Reichstag the President extended to the German Government an invitation to send a commission of experts to the United States to investigate on the spot the operations of hog raising, slaughtering, and packing, and so satisfy itself that the conclusions reached by this Government, after a searching investigation, are sound. The German Government did not, however, find it practicable to act in season upon this suggestion.

I send you for your information a copy of the instruction sent to Mr. Sargent, conveying this information.\(^1\) It might perhaps be embarrassing to extend a like formal invitation at this late day to the French Government, but you are at liberty to mention the circumstance to Mr. Challemel-Lacour as an additional illustration of the conviction felt by this Government that the charges of unsoundness and deleteriousness brought against the pork products of the United States are without adequate foundation, and of the confidence with which we court the fullest investigation of the facts. You may say to the minister that it is probable that the President will, during the present year, designate a commission of the most eminent scientific men of this country to examine into the matter and make a searching and impartial report. If Mr. Challemel-Lacour should express a desire to have a French representative appointed on such commission, or to send a French expert to act in concert therewith, you will say to him that such cooperation would be gladly welcomed.

I am, etc.,

FRED'K T. FRELINGHUYSEN.

No. 30.

Mr. Brulatour to Mr. Frelinghuysen.

No. 371.]

LEGATION OF THE UNITED STATES, Paris, July 17, 1883. (Received August 2.)

SIR: Referring to your dispatch No. 294, of the 22d of June, in relation to the commission of experts which the President will probably appoint during the present year to investigate on the spot the operations of hog raising, slaughtering, and packing, I have the honor to state that I acquainted Mr. Challemel-Lacour with the intention of the President, and took occasion to say that should the French Government desire to appoint a French examiner to act in cooperation with this commission such cooperation would be gladly welcomed.

Mr. Challemel Lacour seemed rather pleased with the idea of putting this matter in the hands of experts well qualified to report tuly and impartially, and said he would mention the subject to his colleague, the minister of commerce, and

inform me of his decision.

I have, etc.,

E. J. BRULATOUR.

No. 31.

Mr. Davis to Mr. Brulatour.

No. 337.]

DEPARTMENT OF STATE, Washington, August 28, 1883.

SIR: Referring to dispatch No. 48 of your legation, of the 6th of October, 1881, I have to request you to send to Mr. Schuyler, the American minister at Athens, six copies of the French translation of the pamphlet on American pork issued by this Department. You may also send six copies of the translation to this Department, if you have them to spare.

I am, etc.,

JOHN DAVIS, Acting Secretary.

No. 32.

Mr. Roosevelt to Mr. Davis.

No. 126.

UNITED STATES CONSULATE, Bordeaux, September 26, 1883. (Received October 15.)

Sir: I have the honor to transmit herewith a copy and translatation of a letter addressed to the minister of public works (M. Raynal) at Paris, France, by the merchants of Bordeaux dealing exclusively in American salt pork and lard.

I am, etc.,

GEO. W. ROOSEVELT.

¹See Instruction No. 87, February 16, 1882, to the United States minister at Berlin.

[Inclosure in No. 126.—Translation.]

Bordeaux dealers in American pork to the minister of public works.

SYNDICATE OF THE TRADE IN AMERICAN LARD AND SALT PORK, BORDEAUX-A STATEMENT RELATIVE TO AMERICAN SALT PORK.

American salt pork is freely admitted in England, Belgium, Holland, Sweden. Norway, and Switzerland; in Spain it is subjected, as is German pork, to inspection by experts.

With the exception of Germany, those European nations which have interdicted the use of American salt pork consumed very little of that article; Austria-Hun-

gary, for instance, has never imported it directly.

AMERICAN SALT PORK.

Germany, therefore, is the only country in which American pork was consumed that has followed the example of France, and we assert that in that country, as in others, the health question was but a pretext to favor the farmers. The articles which appeared in the liberal German newspapers leave no doubt of this. It has, moreover, been frequently shown by official documents (as evidence of which we refer to Mr. Wurtz's report to the Senate) that all the cases of trichinosis known to have occurred in Germany were due to the eating of fresh pork, while not one was caused by eating American salt pork.

There is consequently great cause to regret the adoption of a measure which is still kept in force without sufficient reason and which deprives the laboring classes of a cheap article of food for which no substitute has as yet been found. The managers of large industrial or mining establishments have made serious complaints on this subject, which have found an echo in the commission of the Cham-

ber of Deputies.

In France our pork butchers sell the greater part of their pork fresh and salt those parts only that are sold at a higher price, as, for instance, hams, breasts, and fatbacks. In America the salters salt all the parts of the animal. Now, the shoulders and the strips with lean, which are excellent though cheap pieces, and which, for the latter reason, are not salted by French butchers, formed the greater part of our imports—that is to say, from 32,000,000 to 33,000,000 kilograms; the other cuts amounted to scarcely 8,000,000 kilograms. The latter—that is, hams, breasts, and fatbacks—were sold by the butchers at high prices as French productions.

Shoulders and strips containing lean were, on the contrary, bought by grocers, who, being accustomed to smaller profits, sold them to the poorer classes, among which they were in great demand, owing to their cheapness and good quality.

In order properly to appreciate the consequences of the decree of February 18, it is not sufficient to compare the prices of pork before and after that date. Comparison should also be made between those prices and those at which grocers sold a kind of pork which is no longer to be procured in the French market. Moreover, as Mr. Achard's report contains precise data with regard to the average rates which prevailed previously to the prohibition, there is no need of referring to that. It appears to us that it will be more interesting to compare the prices at which French and American salt pork is now sold.

FRENCH SALT PORK.

If we compare the above prices with the retail prices, we shall see what enormous profits the pork butcher makes in dealing with the customer, owing to the monopoly which has caused the adoption of the prohibitory measure.

If, moreover, we consult the table given below, the figures of which are taken from the market reports of Bordeaux and Paris, we observe that producers now receive lower prices for their swine than they did prior to 1881.

Average price per 100 kilograms, net weight.

	Third quar- ter, 1880.	Fourth quarter, 1880.	First quar- ter, 1881.	First quar- ter, 1883.	Third quar- ter, 1883.
Bor leaux Paris, Villette		128. 50 to 136			104.50 to 114 127 to 156.50

Extraordinary as this consequence of prohibition may at first sight appear, it is explained by the competition of the neighboring nations. Germany, whose hogs are by no means free from disease, sent 46,000 of them to the Paris market in 1882. Spain also sends her swine to our city. Austria-Hungary sends us its salt bacon, and other neighboring nations send us salt pork which is probably American. say probably because it is absolutely impossible to determine the real origin of any

piece of pork.

The pork butchers are therefore the only ones who now have no competition to contend against, and who, owing to the exceptional state of things which has been caused by the decree of February 18, are growing rich at the expense of both producers and consumers. At the time when the decree was promulgated they did not foresee the results which have inured so greatly to their benefit, for, on the very day following its promulgation, they all protested against the very measure which they now, with the same unanimity, ask to have kept in force. To cite but one fact in support of the assertion, we refer to a petition sent from Lyons, the signers of which, who had, it appears, engaged in an unfortunate speculation, requested the Government to adopt still more stringent measures, inasmuch as such measures would have afforded them relief by enabling them to dispose of the

stock of goods which they had on hand at a large profit.

Now that the wholesome character of American pork is no longer seriously disputed, even by our adversaries, there remain, in behalf of prohibition, none but the reasons put forward by protectionists.

We have faith in the liberalism of the Government, and feel confident that it will treat those superannuated theories as they deserve; and since the fears no longer exist which, as we are assured, alone called forth the decree of prohibition, we trust that the days of prohibition are

now numbered.

We ask, together with the merchants of Havre and Marseilles, for the revocawe ask, together with the herciants of Havre and Marsentes, together with the herciants of Havre and Marsentes, to the revocation, pure and simple, of the decree of February 18, 1881; yet, in order to satisfy everybody, we should be perfectly willing to have pork subjected to sanitary inspection on its arrival, with a view to furnishing evidence of its good condition. We do, however, object to the other methods proposed, such as microscopic examination or refrigeration. These we consider as being impracticable and of such a nature as to give rise to obstacles which would be equivalent to prohibition.

[Signatures.]

Bordeaux, September 8, 1883.

No. 33.

Mr. Frelinghuysen to Mr. Morton.

No. 364.]

DEPARTMENT OF STATE, Washington, October 9, 1883.

Sir: With reference to previous correspondence on the subject, I have to inform you that in view of the action taken by Germany and several other foreign powers in prohibiting the importation of American pork upon the ground that it is an unhealthful article of food, this Government has now taken measures for such a thorough investigation of the subject as will, it is thought, leave no doubt whatever as to the facts.

To this end the President has designated a commission, which he has charged with the duty of making a searching and impartial examination of all the conditions of hog raising and packing industries of the United States. The chairman of the commission is Dr. George B. Loring, the Commissioner of Agriculture, whose official duties for several years past have made him very familiar with the subject now submitted to the commission for formal investigation.

The other members of the commission are:

First. Prof. C. F. Chandler, an eminent scientist of New York, who was unan-

imously selected by the chamber of commerce of that city on account of his

peculiar competency for the position:

Second, Eliphalet W. Blatchford, esq., who was nominated by the Board of Trade of ('hicago as an intelligent gentleman of the very highest social and business standing, who "is in no way personally interested in the business to be investigated and is possessed of those characteristics which it is believed will enable him fully, ably, and fairly to cooperate with the members of the commission in placing these most important interests in their true position before the Government and through it before the commercial world;"

Third. F. D. Curtis, esq., of Charlton, N. Y., recommended by the Department of Agriculture as a gentleman who has given long and diligent study to the indus-

try: and

Fourth. Prof. D. E. Salmon, of Washington, D. C., nominated by the Commissioner of Agriculture, and well known as one of the most learned and skillful veterinary surgeons in the United States.

This commission will be organized at an early day, and the results of its investigation will be submitted to Congress as soon as practicable.

It appears from Mr. Brulatour's dispatch No. 371, of the 17th of June last, that when he informed the French foreign office of the President's intention to appoint this commission, Mr. Challemel Lacour seemed pleased with the proposal, and promised to mention the subject to his colleague, the minister of commerce, and inform the legation of the result. The Department not having as yet been advised as to the decision reached by the French Government in regard to the matter, I will thank you to lose no time in informing the foreign office of the action which the President has now taken in reference to the subject.

I am, etc.,

FREDK. T. FRELINGHUYSEN.

No. 34.

Mr. Glover to Mr. Davis.

No. 51.]

UNITED STATES CONSULATE. Havre, October 15, 1883, (Received November 2.)

Sir: In a speech delivered at a banquet in this city last evening Minister Ferry made the following remarks in regard to American salt meats, which I translate and forward for your information.

I am, etc.,

JOHN B. GLOVER. United States Consul.

[Inclosure in No. 51.-Extract from Minister Ferry's speech.-Translation.]

There is, nevertheless, one of your claims of which I must immediately say a word, for it is a question of the utmost importance to the interests of this illus-

word, for its a question of the unions tage in the speech of your honorable deputy, Mr. Penlevey. It is of American salted meats.

On this question you preach to one converted. I partake of your sentiment on the liberty of the commerce of salted meats, but I think also that it is proper to take account of the opinion of a certain portion of the public on the question of healthfulness, to which science is searching to give a solution. At this moment, while I am speaking, the question is being studied by the most important of Government bodies, the health committee.

Let it only give a guaranty covering the responsibility of the Government keeper of the public health, and the solution will be nigh. For myself I will do all I can. I assure you. and I hope that in the near future the question will be resolved in a democratic and liberal sense, not only for commerce, but also for the

population it sustains.

No. 35.

Mr. Wilson to Mr. Davis.

[Extract.]

No. 30.]

UNITED STATES CONSULATE, Nantes, October 20, 1883. (Received November 9.)

SIR: I have the honor to inclose slips from newspapers published in Nantes, which I transmit for your information, concerning the public feeling in this locality anent the subject of the prohibition of American pork. This feeling, as I have heretofore shown (dispatch No. 12), had its foundation in interested motives, those looking to the protection of the pork manufacturers of this vicinity; and doubtless these motives continue their influence. * * *

I have, etc.,

THOMAS WILSON, Consul.

[Inclosure in No. 30.—Extracts from newspapers published at Nantes.—Translation.]

MUNICIPAL BOARD OF NANTES.

Mr. Normand, in behalf of the salters of our city, moved that the Government should be requested to maintain the decree prohibiting the importation of American bacon.

On a recent occasion, and with a certain solemnity, said Mr. Normand, the

revocation of this decree was asked for by the merchants of Havre.

It is important that we take measures to protect the health of all our people, and that we act in behalf of our manufacturers and farmers, who would be seriously injured if the Government were to abate the stringency of the measures which have been adopted.

Mr. Normand did not propose to address the deputies and senators of the department, doubtiess lest it should then be necessary likewise to thank them collectively. He requested the mayor to prepare a letter to the minister of commerce asking for the maintenance of the present state of things.

The board requested the mayor to convey the expression of its wishes to the

ministers.

Colombia State Colombia

AMERICAN SALT PORK.

In a previous number we said: "In our opinion these serious questions call for serious examination and discussion, and require that all the documents be laid before the parties interested."

We consequently now publish a translation of an important report, made by the British consul at Philadelphia, which has been very little read in our country.

THE CONTROVERSY WITH REGARD TO HOG CHOLERA—IMPORTANT CORRESPOND-ENCE—CONSUL CLIPPERTON'S DEFENSE—REPLY OF THE COMMITTEE.

The following correspondence relative to the reports made on hog cholera in the West requires no explanation. It will be remembered that Messrs. Orr, Fowler & Sinclair called recently on Consul Clipperton in relation to his report to his Government, in which he stated that 700,000 hogs had died of hog cholera in the State of Illinois. On their return these gentlemen prepared a report, which was published in full in the Bulletin, and requested Secretary Blaine to take the matter in hand. Consul Clipperton subsequently addressed the following letter to the committee:

MARCH 10, 1881.

Messrs. ORR, FOWLER & Co.,

Special Committee of the New York Stock Exchange.

Gentlemen: According to my promise to acquaint you with the result of my latest investigations relative to the hog disease in the State of Illinois in the year 1880. I have the honor to inform you that all the statistics of the State of Illinois for the year 1880 have not yet been published. If you will refer, however, to volume 16 of the reports of the Illinois agricultural department (for 1878), pages 377

and 378, under the heading "Hog cholera," you will find that the number of hogs was 3,334,9:0, and that the number of those which died of disease was 474,758; that is to say, 14 per cent of the whole. The loss in money is estimated at \$1,438,589. In volume 17 (for 1879), page 383, the number of hogs destroyed by cholera from May 1, 1878, to May 1, 1879, is stated to have reached the enormous figure of 1,391,422 head, and the weight is stated to have been 139,893,508 pounds, being an average of 100 pounds per head. In a single county (Warren) 59,544 hogs ded. On pages 544 and 545 the number of hogs lost up to May 1, 1880, is estimated at 182,577.

These statistics do not include the young pigs, the census having been taken in April, and hundreds of thousands are born after that date, among which there

must have been more or less mortality from hog cholera.

The Department of Agriculture at Washington, without having been able, thus far, to give the exact figures, has expressed the opinion that the number of hogs

that died in Illinois in 1880 was not less than 300,000.

This information was recently communicated to me by letter. Taking these figures into consideration, and bearing in mind the fact that the swine plague or hog cholera must have its fluctuations, it is very probable that, if the amount of the present mortality could be made known, the total number would differ little from that stated, i. e., 700,000 head.

There is certainly a remarkable difference between the figures 1,391,422 for the year ending May 1, 1879, according to the report of the Hilmois Agricultural Department, and those announced by Mr. Fowler for 1880, i. e., 700,000 head.

Allow me to call your attention to the concessions which you were disposed to make at the close of our long but interesting interview on Monday last. Those concessions were: First, that the consular report to my Government did not concern the State of Ohio; second, that the report made by me to my Government was not a special report, but formed part of the monthly sanitary report which all consular officers in all parts of the globe are required to furnish; third, that hog cholera exists and has existed for years in all the States in which hog-raising is carried on on a large scale; fourth, that trichinosis is a disease which affects the human system, and that it is caused by the use of unwholesome or raw pork. The patience and intelligence shown by you in the discussion of this subject, together with your affable manners, have merited our most sincere respect, and I take this opportunity to express my regret that the committees of other cities, as well as many of the daily papers of this country, have not shown the same moderation relative to this matter.

Now, gentlemen, allow me to quote from a report received this morning from Chicago: "It now appears that the State of Illinois, and not that of Ohio, is the one in which 700,000 hogs died in 1880, and my opinion is that the parties interested are disposed to let the question rest, and that they will not ask for an investigation. Should it be decide I to hold one, the result might be quite different from the statements of the boards of trade of New York, Philadelphia, St. Louis, Chicago, Indianapolis, Cleveland, etc. I think I know that several members of the Chicago committee have made a trip to Springfield, the capital of the State of Illinois, and it is likely that the statistics which they have seen there have edified

them as to the mortality among swine in that State."

The reasons that induced you to publish the decisions which condemned the consular reports will doubtless lead you to publish this letter.

I further beg leave to quote certain passages from official reports concerning

agricultural matters in the United States.

Does the swine plague, otherwise known as hog cholera, exist in this country? The Commissioner of Agriculture at Washington, in his report for 1878, says: "For less than one half the territory of the United States they show annual losses amounting to \$10,091,483 in swine alone, and for all other classes of domesticated animals the losses are given for the same counties at \$6,561,945, making a grand total of \$16,653,428.

"These figures indicate that the losses of farm animals throughout the United States annually aggregate the sum of \$30,000,000 or more. As at least two-thirds of this amount seemed to be sustained in the loss of swine from affections which appeared to be but little understood by the farmer and stock raiser, I regarded the subject of sufficient importance to call for an appropriation to defray the expenses of a scientific investigation into the causes of many of the more malignant, infectious, and contagious diseases of domesticated animals, but more especially of those incident to swine. " "

"In addition to the saving of so vast an amount of property the health of our people demands the completion of this work, as it is a noteworthy but lamentable fact that many herds of hogs are shipped to the nearest market, or are slaughtered by the owner for marketable purposes, as soon as disease makes its appearance among them." (Pages 24 and 25, report for 1878.)

Is the disease known as hog cholera contagious?

Dr. Detmers, in his report to the Department of Agriculture for 1878, says: "The contagion or the infectious principle is and has been disseminated through the whole country in a wholesale manner, as I shall show immediately. the first month of my presence in Champaign I stopped at the Doane House, a hotel belonging to the Illinois Central Railroad Company, and constituting also the railroad depot. Every night carloads of diseased hogs, destined for Chicago, passed my window. Only a very short time ago, on one of the last days of October, a farmer, J. T. M., living near Tolono, sold 67 hogs (some, if not all of them, diseased, and a few of them already in a dying condition) for 2 cents a pound, to be shipped to Chicago. I could cite numerous instances, but I think it not necessary, because these facts are known to everyone where the swine plague is prevailing. Besides, in nearly every little town in the neighborhood of which cases of swine plague are of frequent occurrence is a rendering establishment to which dead hogs are brought. These establishments pay 1 cent a pound, and the farmers haul their dead hogs sometimes 10 or 15 miles, in open wagons, past farms, barns, and hog lots, and disseminate thereby the germs of the disease through the whole country. The transportation of dead hogs by wagon, I admit, might be stopped by State laws, but the latter prove usually to be ineffective where railroad companies (interstate and international traffic) are concerned."

In his entire report Dr. Detmers shows that the swine plague or hog cholera is a contagious and infectious disease; that it is easily communicated by one animal to another, either by direct inoculation or by the introduction of the infectious principle into the digestive organs in the form of food or drink; that a very small quantity of the virus or infectious principle is sufficient to cause the disease; that the infection may be transmitted to other species of domestic animals; that so harmless a liquid as milk will produce the disease with as much certainty as direct inoculation from a dead or diseased hog, and that the contagion is transmitted from herd to herd and from farm to farm. (Special report of the Department of

Agriculture, No. 22, for 1878.

Mr. Robert Hodson, a storekeeper in Oquawka, made the following statement: "I have a farm on the banks of Henderson River, and last year kept quite a herd of hogs. One morning I found lodged at my hog lot, which joins the river, a dead hog, which had come downstream, and had probably been thrown in some distance above. My hogs discovered it earlier than I and were feeding on the carcass when I came. Ten days later they commenced to die. My loss amounted

to fully \$1,500."

Mr. Miller's whole herd consisted of 240 head, and 237 died; only 3 survived or remained exempted. At that time no other case of swine plague existed in the whole neighborhood, and, according to the best information I could obtain, there was none within 20 miles. Soon, however, the disease commenced to spread from Mr. Miller's herd to those of his neighbors, first to the herd of his neighbor toward the north (the prevailing wind was from the south), then all around, and finally over the whole township and beyond. In November, 1878, Mr. Miller, when he had only 3 hogs left, bought again 32 head. These, too, very soon became

Pat Murphy lives 1½ miles south of Gap Grove. Up to January 2 he had lost 5 hogs out of a herd of 10 head; 7 had been sick, but 2 had recovered. * * * Those of his next neighbor south, Mr. Hadeler, became affected next. Mr. Hadeler lost 100 head and saved 9. * * *

Hadeler lost 100 head and saved 9.

A radical extermination is the only thing that will be effective, unless it can be proved that a spontaneous development is taking place or can take place within the borders of the United States. Fortunately the low temperature of the winters in our principal pork-producing States facilitates a stamping out, if undertaken at the proper time in the winter and in the spring, because a low temperature (frost), and especially snow, interrupt very essentially the propagation of the disease germs and the spreading of the disease, and although not absolutely destroying or killing the bacilli and their germs, cause a great many of them to perish or to be in a dormant state for some time. Besides that the number of hogs and pigs in existence from the 1st of January to the 1st of April is a comparatively small one, because most of the hogs have been shipped and butchered and the young pigs have not been born. But the measures of extermination or stamping out must be thorough.

Although not called upon to propose any law or legislation, I consider it my duty to lay before you a plan which, if executed, will lead to a prompt and effective suppression and the final extinction of that terrible plague which costs the country every year many millions of dollars and undermines the prosperity not only of individual farmers but of whole States. (Special report No. 22, p. 45.)

CAN HOG CHOLERA AFFECT THE HUMAN SYSTEM?

Dr. Detmers says: "It may also not be out of place to relate a case that occurred last summer in Knox County, Ill. A well-to-do and highly respectable family, residing near Yates City, lost, in last July, three children, aged, respectively, 13, 5 or 6, and 24 or 3 years, of a disease diagnosed by the attending physicians as diphtheria. The two remaining children of the same family also became affected. but recovered. Five physicians were in attendance and made a careful research but recovered. Five physicians were in attendance and made a careful research as to the possible cause or causes and could find but one thing which might be construed as such. The family used ice which had been taken from a creek into which, above, some hogs (hogs that had died of swine plague) had been thrown just before the water of the creek became frozen. My informants are a highly respected physician in Biggsville, Dr. Maxwell, and a near relative of the afflicted family. Mr. John McKee, who has a drug store in the same place." (Special report No. 22, p. 45.)

In conclusion, although by no means ignorant of the result, it is unnecessary for me to follow up the question of trichinosis any further; all who read the newsme to follow up the question of trichmosts any further; all who read the newspapers know that serious cases occur in the various sections of this country and in Europe. It is moreover not for me to mention in this connection the complaints which every now and then come from European ports with regard to the inferior quality and bad condition of the salt pork shipped thither, which cause it to be rejected by foreign inspectors, occasion serious losses to importers, and bring American pork exports into discredit; nor is it for me to expatiate upon the causes of the difference of opinion between the chamber of commerce of this city and the United States consul at Brussels with regard to the certificates of inspection issued by the Covernment.

issued by the Government.

I am, etc.,

R. C. CLIPPERTON, Consul of H. B. M.

MUNICIPAL BOARD OF NANTES, SESSION OF OCTOBER 18, 1883.

Mr. Normand remarked that the importation of American salt pork had been prohibited by a decree of February 18, 1881, owing to the prevalence of trichinosis in America. Mr. Tirard, he said, had issued that decree after a careful investigation, and Germany, Turkey, Italy, etc., had followed the example of France. Mr. Normand said that the minister of commerce, during a visit recently made by him to Havre, appeared to have lent too attentive an ear to the complaints of the merchants of that city, and there was reason to fear that the Government would revoke the decree of February 18, 1881. Mr. Normand therefore moved that the municipal board should adopt the following resolution:

"Whereas the decree of February 18, 1881, prohibited the importation of salt pork from America, because it had been found that such pork contained triching

and that it could not be eaten without endangering public health; and

"Whereas American pork is still trichinous, which is the best answer that can be made to the merchants of Havre who are urging the Government to rescind the aforesaid decree at the risk of introducing trichinosis into France, which malady is frequently fatal to mankind, and may cause the destruction of all the swine in the country: Therefore, be it

"Resolved, That this municipal board request the Government of the French

Republic rigorously to maintain the decree of February 18, 1881, and to disregard

the wishes of the merchants of Havre."

Mr. Lechat thought that the importation of American salt pork was prohibited only when it was found to be trichinous, but that it was an error to suppose that the importation of all salt pork from America was indiscriminately prohibited. He said that the proper thing for the Government to do was to cause the pork brought from America to be carefully examined, otherwise the French people would be deprived of an important article of food. Meat, he said, was already sold at very high prices; the rise in the price of beef, for instance, had been nearly 15 per cent during the past year.

Mr. Lechat added that great strictness was necessary in the case of trichinous pork, for deception was easy. The Americans, said he, put choice pieces of meat at the top of the barrel and the diseased pieces beneath. Inspection is difficult, and it should be carefully performed. The Government had stated in reply to Mr. Penlevey, the gentleman who pleaded the cause of trichinous pork at Havre, that the governmental board of health should examinine the question. The minister of commerce had said nothing more, and intentions should not be attributed to him which he perhaps never entertained.

Mr. Lechat therefore thought that nothing more than a rigid inspection should

be asked for.

Mr. Normand said that he simply asked for the maintenance of the decree of February 18, 1881. The prohibition thereby established, he said, was absolute.

Mr. Normand's motion was unanimously adopted.

His honor the mayor said that he would transmit the resolution which had been adopted to the Government, but that he had already transmitted a similar request from the merchants of Nantes, to which Mr. Ferry had replied by declarng that he would make no change in the decree without a thorough examination.

No. 36.

Mr. Morton to Mr. Frelinghuysen.

No. 425.]

LEGATION OF THE UNITED STATES, Paris, October 21, 1883. (Received November 3.)

SIR: Having had recent conversations with the President, the president of the council, and other members of the cabinet with reference to the decree prohibiting the importation of American salted meats, I deemed the present a fitting time to address another dispatch to the minister of foreign affairs restating the reasons why my Government had expected for a long time the withdrawal of this decree, and asking the early and earnest consideration of the question by the French Government.

I have the honor to inclose a copy of my communication, which I hope will

meet the approval of the Department.

I have, etc.,

LEVI P. MORTON.

[Inclosure in No. 425.]

Mr. Morton to Mr. Challemel Lacour,

LEGATION OF THE UNITED STATES, Paris, October 20, 1883.

SIR: I beg leave to call again your excellency's attention to the subject-matter of my note of March 23, 1883, representing the injustice of the long-standing decree prohibiting the importation of American salted meats.

The conversations I have had the honor to hold with your excellency and other members of the cabinet in relation to the decree, had led me to believe that it would have been repealed long ago. I regret to say that it is still in force, and I must add that I fail to see upon what ground a measure so prejudicial to the true interests of two great countries so friendly allied as France and the United

States are, is so persistently retained.

The present minister of commerce believes it uncalled for. His predecessor openly advocated its repeal in the Senate; the constitutional head of the Government, the president of the council, has publicly declared that he disapproves of it; your excellency opposed it in the Senate chamber. The House of Deputies expressed itself unequivocally in favor of its repeal, and the Senate, while declining by a bare majority to interfere in the matter, left the Government free to take its own course. The Academy of Medicine of France has declared it unnecessary; the beard of public hydrone has made the senue authoritative declaration and the board of public hygiene has made the same authoritative declaration, and the great chemist, Mr. Wurtz, who is paramount authority for the whole scientific world, has demonstrated in unanswerable language its absolute inutility.

A moment's consideration will, I trust, satisfy your excellency that, on the ground of public health, it would be much more justifiable to exclude French wines from America than it is to prohibit American meats in France. The French scientific authorities do not contend that the consumption of American meats is dangerous, while they do contend that some French wines are adulterated to an

extent prejudicial to public health.

On the one side there is the evidence of the most competent of your learned institutions in such matters that American salted meats are inoffensive; on the other there is the evidence of your own officials that French wines are manipulated in such a manner as to make them unhealthy.

Yet, notwithstanding the overwhelming weight of such facts, and in spite of the repeated complaints of the French chambers of commerce and of the earnest representations of the United States, this obnoxious decree has remained standing for nearly three years and has had the mischievous tendency of alienating from France the powerful compercial interests of our Western States. Your excellency can not be unaware that the growing dissatisfaction caused by this extraordinary discrimination, only applicable to the United States of all the countries with which France is in friendly relations, against one of the most important products of the United States, is likely to give rise to discussion in the Congress about to convene at Washington which might result in measures which would seriously affect Franco-American commerce in some of its most important branches.

If I call your excellency's attention to these facts, it is by no means with the intention of threatening the French Government with retaliatory measures, which, so far as I am informed, are not contemplated by my Government, but simply to show that the interests which are provoked to take such a course could find

substantial reasons to support the position.

Believing that the French Government would satisfy itself that the decree was issued under a misapprehension and cheerfully abrogate it, neither the Government nor the Congress of the United States, notwithstanding the constantly increasing pressure of public opinion, has taken any action with reference thereto. I can not doubt that your excellency will, upon a review of the evidence in your

I can not doubt that your excellency will, upon a review of the evidence in your possession, concur with me in the opinion that the results of the searching investigations conducted by competent officers of both countries have clearly established the unfounded and erroneous character of the statements regarding the alleged unwholesome quality of American hog products upon which the issue of the prohibitory decree was based.

I avail, etc.,

L. P. MORTON.

No. 37.

Mr. Glover to Mr. Davis.

[Extract.]

No. 52.]

UNITED STATES CONSULATE,
Havre, October 22, 1883. (Received November 9.)

SIR: Our commercial relations with France and Germany are likely to be very fully discussed during the next session of Congress. The edict promulgated by Mr. Tirard in 1881, which prohibited the importation of American salt meats into this country, demands, and will, I doubt not, receive, the most careful consideration by that body. In my judgment it is one of the most important questions that will come before the ensuing session. It is gratifying to know that President Arthur, as well as the Department of State, is making active efforts to have the question settled on a just basis. A favorable report from the committee recently appointed by the President to investigate the subject will go very far toward removing the unjust discrimination against one of our chief products.

The edict was based on false premises, and of course nothing but injustice could result from its promulgation, both to the producer and the consumer. The plea that the health of the French people was endangered by the importation of American pork is absolutely without justification, as has been demonstrated and unanimously declared by the most competent body of scientists in France.

The French people, as far as I am able to judge, are in favor of its (the edict's) entire abolition. The laborers especially are opposed to the prohibition, as it deprives them of a cheap and wholesome article of food. I have never yet spoken to an intelligent Frenchman on the subject who believes that such an order was just or necessary. * * * The chamber of commerce of this city has shown conclusively that the edict is unjust to the working people and also detrimental to the commercial interests of the country. So, also, has the same been shown by the chambers of commerce of Bordeaux and other cities. Mr. Jules Ferry, president of the council, takes a liberal view of the matter, and it is believed that he will insist on a radical modification of the order. In his great speech delivered in this city on the 14th instant he declared that he was in accord with the people of Havre on this subject.

Some time ago I respectfully asked permission to import a few American hams for the use of my own family, but the request was as respectfully refused. * * * Probably thirty millions of our people eat American pork every day in the year,

besides several millions of Englishmen. There has never been but one well-attested case of trichinosis in France, and that from the product of a French hog. * * * I am, etc.,

JOHN B. GLOVER, United States Consul.

No. 38.

Mr. Frelinghuysen to Mr. Morton.

[Telegram.]

DEPARTMENT OF STATE, Washington, October 31, 1883.

If hopeful prospect of repealing French restrictions on pork is evident, you may delay communicating three-sixty-four. Keep Department advised, as events will determine President's reference to French action in message.

FRELINGHUYSEN.

No. 39.

Mr. Frelinghuysen to Mr. Morton.

No. 379.1

DEPARTMENT OF STATE, Washington, November 13, 1883.

Sin: I inclose for your information a copy of Mr. Schuyler's dispatch, dated the 19th ultimo, and its accompaniment, respecting the prohibition by the Hellenic Government of pork products coming from America, adding, what will be particularly noted by you, that Greece offers no reason for this action save the precedent established by France.

I am, etc.,

FRED'K T. FRELINGHUYSEN.

No. 40.

Mr. Morton to Mr. Frelinghuysen.

No. 445.]

LEGATION OF THE UNITED STATES, Paris, November 15, 1883. (Received December 1.)

Sir: I called yesterday on the president of the council, who, in the absence of Mr. Challemel Lacour, has charge of the foreign office, to inquire if the Government had come to a conclusion as to the time of the withdrawal of the decree prohibiting the importation of American salted meats. Mr. Jules Ferry opened the subject pleasantly, by saying that he knew the object of my visit, but that, unfortunately, he was yet unable to give me a satisfactory answer, as the execution of his purpose had been interfered with by the extraordinary epidemic of trichinosis which had lately appeared in Germany.

which had lately appeared in Germany.

"The unusual and alarming character of this epidemic," said he, "is such that the committee of public hygiene has felt bound to devote to its examination more than it expected at first. I am satisfied," he continued, "that the consumption of American meats has nothing to do with this epidemic, but as we can not cancel our prohibitory measures without encountering a strong opposition, we must be

prepared to meet all the objections which might be made to our action."

I stated very frankly to him that the reason of my anxiety for a prompt solution of this so long pending difficulty was a telegram which I had received from you, asking for definite information on the subject which might be used by the President in his forthcoming message. I explained again the reasons which made it important to reach a satisfactory solution before the meeting of Congress, when the subject would no doubt come up for discussion, the necessity for which I was very anxious to avoid, and I urged him to press the solution of the question. He promised to do so in emphatic terms. "In the meantime," he added, "you can state to your Government that the French Government is animated by a strong desire to give to this question a most liberal solution and at the earliest possible moment." I inquired: "May I expect action before meeting of Congress?" He said: "Yes."

I have, etc.,

LEVI P. MORTON.

No. 41.

Mr. Morton to Mr. Frelinghuysen.

[Telegram.]

Paris, November 27, 1883.

Mr. Morton informs Mr. Frelinghuysen that a decree has to-day been signed, and will be published November 28 in the official journal, canceling the prohibition of American pork, and that he will inform the minister in Greece of the fact.

No. 42.

Mr. Morton to Mr. Frelinghuysen,

[Extract.]

No 452.7

LEGATION OF THE UNITED STATES, Paris, November 29, 1883. (Received December 13.)

SIR: As I had the honor of informing you by my telegram of yesterday, the official journal of this morning publishes a decree repealing that of February 18, 1881.

by which the importation of American pork was prohibited in France.

The French packers were so much interested and so persistent in obstructing this long-expected measure that I feared the withdrawal of the prohibition might be coupled with some kind of inspection which would practically restrict its effect, but the decree removes the prohibition without any conditions. A circular of the minister of commerce, addressed to the prefects, informs them of the decision taken, and simply advises them to see that the pork offered to the public is fully cured and to recommend to those making use of such meats that they should be well cooked, as it is scientifically and experimentally established, says the minister, that thorough cooking and salting destroys trichinosis when it exists.

Thus the position taken in this matter by the legation and maintained in repeated communications, written and verbal, is at last officially admitted as correct by the

French Government.

In view of the information conveyed in your dispatch No. 379, of November 13,

I informed Mr. Schuyler of the withdrawal of the decree.

I deem it proper to avail myself of this occasion to express my high appreciation of the valuable assistance rendered and cordial cooperation of Mr. Vignaud in the long-pending negotiations, as in all other matters, now so satisfactorily terminated by the withdrawal pure and simple of the prohibitory decree at a time when the current of public sentiment elsewhere in Europe appears to be running in a different direction.

I inclose herewith copy and translation of both the decree and the circular.

I have, etc.,

LEVI P. MORTON.

[Inclosure 1 in No. 452.—Translation.]

DECREE OF NOVEMBER 27, 1883.

The President of the French Republic, upon the report of the minister of commerce, considering the comformable opinion of the consultative committee of public health of France. dated the 26th November, 1883, decrees:

ARTICLE 1. Is, and shall remain, annulled, the decree dated the 18th of February, 1881, which prohibits on the territory of the French Republic the importation of salted pork of American origin.

ART. 2. The minister of commerce and the minister of finance are instructed,

each so far as it may concern him, to execute the present decree, which shall be inserted in the Journal O. ciel and published in the Bulletin des Lois.

Done at Paris the 27th November, 1883.

JULES GRÉVY.

By the President of the Republic. The minister of commerce:

CH. HERISSON.

The minister of finance: P. TIRARD. [Inclosure 2 in No. 452.—Translation.]

CIRCULAR FROM THE MINISTER OF COMMERCE.

Paris, November 27, 1883.

MONSIEUR LE PRÉFET: A decree of the President of the Republic of the 27th of November has just annulled the decree of the 18th February, 1881, which prohibits on the entire territory of the French Republic the importation of salted pork coming from the United States.

This decree, which has for object to restore to consumption a much esteemed article of food among the working classes, will not efficaciously attain the end in view unless all requisite precautions for the preservation of public health are taken

in the use of this meat.

The consultative committee of public hygiene of France, to whom I referred the question, undertook a minute examination of the subject, from which it results that preserved pork loses all serious dauger of infestation of trichinosis, if it is salted with care, and if the brine in which it is deposited is of good preparation. You should therefore recommend to the municipal authorities, who have more especially in their attributions the supervision of articles of food, to examine with the greatest care whether these conditions are entirely carried out as far as concerns salted pork put up for sale in their commune, and not to hesitate to seize and destroy that which, from an imperfect degree of saltness, may appear to them unfit for consumption.

The committee has ascertained besides, both scientifically and by experimental means, that trichinosis, when it exists in pork, is entirely destroyed by complete cooking, and that all danger will disappear for the consumer if, conformably to our well-known culinary habits, this meat is not eaten raw or rarely cooked.

You will please, therefore, bring this important particular to the knowledge of those under your jurisdiction by all the means of publicity at your disposal.

I beg you will acknowledge receipt of the present circular and give your careful attention to the execution of the directions contained therein.

Receive, etc..

The minister of commerce:

CH. HERISSON.

No. 43.

Mr. Frelinghuysen to Mr. Morton.

No. 393.]

DEPARTMENT OF STATE, Washington, December 7, 1883.

SIR: With reference to your dispatch No. 445, of the 15th ultimo, reporting your conversation with Mr. Jules Ferry in relation to the revocation of the decree prohibiting the importation of American pork, I have to inform you that the Department is much pleased with the friendly tone of the remarks made by Mr. Ferry on the occasion in question.

I am, etc.,

FRED'K T. FRELINGHUYSEN.

No. 44.

Mr. Frelinghuysen to Mr. Morton.

No. 405.]

DEPARTMENT OF STATE, Washington, December 19, 1883.

SIR: With reference to your dispatch No. 452, of the 28th ultimo, containing your full and interesting account of the revocation of the decree of February 18, 1881, prohibiting the importation of American pork into France, I have to request you to convey to the foreign office an expression of the very great satisfaction which the liberal and enlightened course of the French authorities in reference to this matter, based upon thorough scientific investigations, has afforded this

Adding that I have read with much pleasure your statement in reference to the valuable services which Mr. Vignaud has rendered to your legation in the settlement of the American pork question,

I am, etc.,

FREDK. T. FRELINGHUYSEN.

S. Doc. 231, pt 4 39

No. 45.

Mr. Morton to Mr. Frelinghuysen.

[Telegram.]

LEGATION OF THE UNITED STATES, Paris, December 24, 1883.

In consequence of resolution voted Saturday by Chamber of Deputies requesting Government to suspend the free importation of American pork until a bill which has been introduced to inaugurate a system of inspection shall have been acted upon, it is feared by minister that repeal of decree will be compelled. The cabinet council, however, has not yet arrived at a decision.

MORTON.

No. 46.

Mr. Morton to Mr. Frelinghuysen,

No. 464.]

LEGATION OF THE UNITED STATES, Paris, December 26, 1883. (Received January 10, 1884.)

SIR: The action of those opposed to the free admission of American pork has produced such a result that all the efforts made by this legation during many months to obtain an entirely satisfactory settlement of this vexed question are

likely to prove fruitless.

About two weeks ago Mr. Gaudin, a deputy from Nantes (the center of the French pork-packing business), introduced in the house a bill providing for a system of inspection of all salted pork coming from abroad. This bill, which is substantially the same as the one voted by the Chamber last year but defeated in in the Senate, and of which I sent a translation to the Department with my No. 146, of March 31, 1882, was referred to a committee, where it was expected to

remain without being acted upon by the committee.

A few days ago, quite unexpectedly, Mr. Paul Bert, formerly a member of Mr. Gambetta's cabinet, and a scientist of note, asked the Government in the Chamber to suspend the operation of the decree of November 27, again admitting the free importation of American pork, until the Chamber should have acted upon the bill introduced by Mr. Gaudin. Mr. Paul Bert grounded his request on motives of public health; he described in vivid terms the fearful consequences of an epidemic of trichinosis and asserted that he knew from his own personal experiments, as well as by those made by others, that triching did not exist in French pork and did exist in foreign pork.

Mr. Hérisson, the minister of commerce, replied to Mr. Paul Bert that the Government could not comply with his request: that its action in the matter had been duly considered, and that he and his colleagues were sat sfied that the free importation of American pork would not be attended with any danger to the public

health.

This plain and unequivocal answer did not satisfy Mr. Paul Bert, who moved to interpellate the Government on the question. The interpellation was granted, and it came before the House on Saturday last, the 22d instant.

Mr. Paul Bert repeated his request to suspend the operation of the decree canceling the one prohibiting American pork until some definite action be taken by

the Chamber, and submitted the following order of the day:

"The Chamber, considering that it is proper to delay the admission of American pork until after the debate upon the bill now pending, passes to the order of the day."

Mr. Herisson declared that he was obliged to oppose this order of the day; that, as stated before, the Government had acted only after mature deliberation, and upon the advice of the Academy of Medicine; that not a single case of trichinosis had been detected either in England, in Belgium, or in Switzerland, where American pork is freely introduced, or in France when free importation was the rule; that the epidemic of trichinosis which recently appeared in Germany was known to have been caused by German pork, and that consequently there was no good reason to recall a measure which was satisfactory to so many people and open to so little objection.

Mr. Paul Bert said that the facts stated by the minister were not as conclusive as he supposed they were; that trichinosis was not easily detected; that its diagnosis was exactly the same as typhoid fever, and that it was very likely that many people had died of it without the cause being made known; and that, contrary to an opinion generally shared, salt did not kill the trichine, nor did the cooking except when the boiling of the meat is carried to 70° C. In short, he believed the danger arising from the free admission of foreign pork was very great, and he thought it would be very unwise not to regulate in some way its importation into France.

Finally, after a long debate, in which the same arguments were asserted and reasserted in many shapes, the question came to a vote, and the order of the day.

proposed by Mr. Paul Bert, was carried by 272 votes against 153,

It is but simple justice to state that Mr. Hérisson earnestly opposed every effort of Mr. Paul Bert and of his associates in behalf of the French hog raisers and packers. It is admitted openly that public health has little bearing upon the subject in its present stage; it is simply now a question of protection.

I have, etc.,

LEVI P. MORTON.

[Postscript.]

Paris, December 28, 1883.

To comply with the vote of the Chamber it was decided yesterday in cabinet council to prohibit the free importation of American pork until parliamentary action is taken in the matter. In the meantime American pork will be admitted at the ports of Havre, Bordeaux, and Nantes, where an examination of the meat will take place under the control and at the expense of the chambers of commerce of those places.

This measure is satisfactory to the French importers, but the protectionists will probably oppose it, as many of the members of the chamber of commerce are interested in making the inspection as easy as possible. It is to be feared, therefore, that the propriety of this measure will be questioned in the Chamber.

The department of commerce contemplates the introduction of a new bill pro-

viding for a system of inspection.

The National of last night, speaking of this bill (the one recently introduced into Congress for the purpose of empowering the President to prohibit the importation of articles injurious to public health from countries which on the same ground prohibit American products), says it was at first directed against Germany only; but that, "in consequence of the recent vote of the Chamber postponing the removal of the restriction on American pork, France will now have to take her place by the side of Germany, and be equally made the victim of these reprisals. Owing to the order of the day of Mr. Paul Bert, French products are going to be driven out from America. It belongs to the Government to take steps as early as possible to prevent an eventuality which would be so damaging to French commerce."

L. P. M.

No. 47.

Mr. Frelinghuysen to Mr. Morton.

[Telegram.]

Washington, December 27, 1883.

Mr. Frelinghuysen informs Mr. Morton that he is in receipt of complaints of great injury to large commercial interests of the United States through the vacillating action of the French authorities; that Mr. Morton's diligence in the matter of prohibitory decrees is appreciated, and it is not doubted that he will continue his energetic action to secure its permanent repeal.

No. 48.

Mr. Morton to Mr. Frelinghuysen.

[Telegram.]

Paris, December 28, 1883,

Pork again prohibited until the Chamber passes upon the bill to inaugurate a system of inspection. Meantime it will be admitted to the ports of Havre, Bordeaux, and Nantes, subject to inspection under the direction of the chambers of commerce of those cities.

MORTON.

No. 49.

Mr. Morton to Mr. Frelinghuysen.

[Telegram.]

Paris, December 28, 1883.

The withdrawal of the decrees of 27th November, which will be published to-morrow, limits the time for the admission of American pork products to the 20th January at the ports of Havre, Bordeaux, and Marseilles instead of Nantes. Telegram of yesterday received this morning.

MORTON.

No. 50.

Mr. Morton to Mr. Frelinghuysen.

[Telegram.]

PARIS, December 29, 1883.

It was stated in Chamber that Dr. Detmers, who was charged by American Government to investigate trichinosis question, advised in his official report that all the hogs of the district where trichine had made their appearance should be destroyed. Important to be fully informed.

MORTON.

No. 51.

Mr. Frelinghuysen to Mr. Morton,

[Telegram.]

DEPARTMENT OF STATE, Washington, December 29, 1883.

Detmers stated, incorrectly, in 1878-79, in report on swine plague, not trichine, that disease was very prevalent in West, and hogs laboring under it were carelessly sent to market. He has since, in newspapers, expressed erroneous views on swine disease generally in the West. Curtis, a thorough expert, who is investigating trichinosis, reports to Agricultural Department that there is very little disease of any kind; that Detmers is mistaken; that great care is taken by breeders and packers to send healthy pork to market. Commissioner Agriculture entirely accepts Curtis's statement. At a meeting Swine Breeders' Association unanimously stated no disease whatever had occurred among swine in Illinois, Michigan, Indiana, Wisconsin, and Ohio, whence members were present.

FRELINGHUYSEN.

No. 52.

Mr. Roustan to Mr. Frelinghuysen.

[Translation.]

LEGATION OF FRANCE,

Washington, January 2, 1884. (Received January 3.)

Mr. SECRETARY OF STATE:

As you are aware the President of the French Republic, by a decree bearing date of the 27th of November last, and issued at the suggestion of the minister of commerce, revoked the decree of February 18, 1881, which prohibited the importation of salt pork from the United States.

In adopting this measure the Government of the Republic was influenced by various considerations, and especially wished to furnish evidence of its sincere desire to promote as far as possible the development of commercial relations

between the two countries.

However, in compliance with a wish expressed by the Champer of Deputies in consequence of an interpellation which took place during the session of December 22, the French Government has been obliged to suspend for the present the execution of the decree of November 27,

In informing me of this fact, the president of the council adds that a bill has been introduced in the Chamber which is designed to regulate the importation of salt pork from the United States, and that the Government will hasten the discussion of this bill as much as possible. The meat in question will, as a temporary measure, be permitted to enter the ports of Havre, Bordeaux, and Marseilles until January 20, 1884, although previously to being sold it will be subjected to an examination.

I hasten, Mr. Secretary of State, to bring the foregoing information to your

notice.

Accept, etc.,

TH. ROUSTAN.

No. 53.

Mr. Frelinghuysen to Mr. Morton.

[Telegram.]

DEPARTMENT OF STATE, Washington, January 2, 1884.

Represent that decree published 29th only allows three weeks, till 20th January, for importation American pork at three ports named. As we have only occasional steam communication with Bordeaux and Marseilles and none with Nantes, first named as a port, it is probable that bona fide shipments for France may have been made by sailing vessels. You will ask that the time be extended to February 1 for all vessels, and that in case sailing vessels show legitimate shipments made before December 29, entry be granted, subject to any reasonable inspection.

FRELINGHUYSEN.

No. 54.

Mr. Frelinghuysen to Mr. Morton.

No. 413.7

DEPARTMENT OF STATE, Washington, January 2, 1884.

SIR: For your information I send herewith copies of telegrams received from Chicago on the recent vote in the French Chamber of Deputies reinstating prohibition of importation of American hog products:

CHICAGO, December 26, 1883.

Hon. FRED'K T. FRELINGHUYSEN,

Secretary of State, Washington:

The recent vote in French Chamber of Deputies reinstating prohibition of importation of American hog products is, as you are aware, a serious blow to the provision interests of the whole country as well as those of the farmers of the Northwest.

Understanding that the French Government is favorable to the withdrawal of the prohibitory decree, and believing that Congress when reassembled will define a retaliatory policy, we ask that you will instruct our minister to France to work with utmost energy to bring about repeal of decree, intimating, if you think proper, that such action by Congress is probable. This we know would be of greatest value and would undoubtedly produce most favorable results.

ARMOUR & Co.

CHICAGO, December 27, 1883.

Hon. FRED'K T. FRELINGHUYSEN,

Secretary of State, Washington:

I earnestly urge your special attention to the dispatch sent you by Armour & Co., of this city, regarding the French prohibition of hog products. If continued, it will be a serious blow to American capital and a heavy loss to our manufacturing and farming interests.

Prompt action seems to me necessary.

R. W. DUNHAM, M. C.

I am, etc.,

FREDK. T. FRELINGHUYSEN.

No. 55.

Mr. Frelinghuysen to Mr. Morton,

No. 414.7

DEPARTMENT OF STATE, Washington, January 2, 1884.

Sir: The following telegram was sent to Messrs. Armour & Co., of Chicago, Il., December 27, 1883:

"Your telegram received. Further instructions have been telegraphed Mr. Morton, who has been diligent and energetic in matter of repeal of decree.

I am, etc.,

FREDK. T. FRELINGHUYSEN.

No. 36.

Mr. Morton to Mr. Frelinghuysen,

No. 466.1

LEGATION OF THE UNITED STATES. Paris, January 3, 1884. (Received January 18.)

SIR: On the 26th ultimo (dispatch 464), I informed the Department of the resolution voted by the Chamber of Deputies, a few days before, expressing the desire that the free admission of American pork be again suspended, and of the action the Government felt compelled to take in consequence of this vote.

When my dispatch was forwarded (Friday, the 28th) I had not seen the text of the new prohibitory decree, which was only issued on the following day, but my

telegram of the same evening of which a copy is herewith inclosed, gave you its substance. I have the honor of sending to-day a copy and translation of the decree and of a report of the minister of commerce to the President explaining

his motives.

At the President's reception on New Year's Day I had occasion of recurring again to this subject with the president of the council and the minister of commerce, and I am glad to say that both seem as desirous as I am of securing the permanent removal of any obstruction to the importation into France of American pork. I remarked to Mr. Ferry that I had not failed to inform you of his sincere desire to comply with my requests in the matter, and that I was in receipt of a dispatch expressing your appreciation of his friendly language and course, and instructing me to convey to him the satisfaction felt by the Government of the United States with his action, which I intended to do in a more formal manner. "This action of ours," said Mr. Ferry, "is not over; we do not intend to leave the matter as it now stands; we are collecting facts and scientific opinions which are of such weight that they can not fail to impress favorably the Chamber." Mr. Herisson confirmed this statement.

It can not be doubted that there exists in the public mind a strong prejudice against American pork-a prejudice which has been unfortunately to some extent created or aggravated by certain American newspaper articles of which the French protectionists adroitly took advantage. It was in reference to a statement made upon the authority of an American scientist that I telegraphed you to ascertain the correctness of those attributed to Dr. Detmers. Your answer furnished me with valuable information, the insertion of which I procured in all the leading

French as well as in other papers.

Your cipher dispatch of the 27th ultimo, expressing your satisfaction with my diligence in the matter and the hope that energetic efforts would be continued to secure the permanent repeal of the prohibition, was duly received. I highly appreciate the expression of approval, and shall spare no exertion to second your efforts in this matter so important to our commerce.

I have the honor to inclose herewith copies of a note addressed to Mr. Ferry, on the 2d instant, of the telegrams above mentioned, and of the one given to the

press.

I have, etc.,

LEVI P. MORTON.

[Inclosure 1 in No. 466.—Decree published in Journal Officiel.—Translation.]

DECREE.

The President of the French Republic, upon the report of the minister of commerce, decrees:

ARTICLE 1. The execution of the decree of November 27, 1883, is adjourned; is

in consequence suspended until such time as provision is made by a law upon the introduction of pork into France, the importation of the said salted meat coming

from the United States of America.

ART. 2. Nevertheless, for contracts already made, this meat can be admitted exceptionally until the 20th of January, 1884, by the ports of Havre, Bordeaux, and Marseilles, and upon the condition that it shall be stated that it answers to the description known in commerce under the name of "fully cured;" that it is healthy, that it is in a perfect state of preservation, and that the curing is complete.

This statement shall be made by experts specially appointed by the prefects. The importers must declare before any discharge that they consent to pay the

costs that the inspection of the experts may entail.

The maximum of the tariff of these costs shall be fixed by the chambers of commerce.

ART. 3. The ministers of commerce and finance are charged, each one in so far as he may be concerned, with the execution of the present decree.

Done at Paris, December 28, 1883.

By the President of the Republic, The minister of commerce:

JULES GRÉVY.

CH. HERISSON.

[Inclosure 2 in No. 466.—Translation.]

Mr. Herisson's report to the President of the Republic.

Monsieur le President: On the 27th November last I had the honor to submit for your signature a decree repealing that of the 18th February, 1881, which prohibited on the territory of the Republic the importation of salted pork coming from the United States. This measure was grounded upon the opinion of the Academy of Medicine and upon the decision of the consultative committee of public health of France, specially appointed to deliberate upon the matter.

The Chamber of Deputies, at its sitting on the 22d December, evinced the desire that the execution of the decree of the 27th November should be postponed until

the discussion of a proposed law, of which it has already had notice.

The object of the decree annexed herewith is to satisfy this desire in suspending

the importation of American pork.

In order, however, to avoid confusion in commercial transactions, I have the honor to submit likewise for your high approbation a temporary measure with the

view of conciliating the various interests involved.

It is as well to recall in this connection that when the decree of the 18th of February, 1881, had for the first time edicted the formal prohibition of American pork, the importation of the said meat was none the less, in consequence of the importance of the operations engaged, authorized until May 20 of the same year, under the reserve of a microscopical examination.

The measure which I propose to you has been inspired by this precedent. The meat can exceptionally enter France until January 20 next by the three ports of Havre. Bordeaux, and Marseilles, and under certain conditions to prove its harmlessness.

This very short period is proof that the measure of favor can only be really applied to goods at the present time in transit or for which engagements have

been made.

With reference to the guaranties required for the public health, I thought I could do no better to do away with all fears than reproduce textually in the decree those which appear in the proposed law voted by the Chamber on the 28th March, 1882, and which has just been taken up again and supported before the same assembly by those of its members who have evinced the least desire for free importation.

It should be stated that the meat answers to the description known in commerce under the name of "fully cured;" that it is healthy, in a perfect state of

preservation, and that the curing is complete.

The statements should be made by expert agents, appointed by the prefects, and the importers should declare, before any discharge, that they consent to pay the cost that may be incurred by the inspection.

If the advantages of the decree, which I have the honor to propose to you,

appear to you of such a nature as to advise its adoption, I beg you, M. le President, to be so good as to affix your signature thereto.

Receive, M. le President, the assurance of my profound respect.

The minister of commerce:

CH. HERISSON.

[Inclosure 3 in No. 466.]

Mr. Morton to Mr. Ferry.

LEGATION OF THE UNITED STATES, Paris, January 2, 1884.

Sir: It was an agreeable duty for me to inform my Government of the friendly manner in which you had received my earnest representations with regard to the long-standing prohibition of Amer:can pork, and of your liberal action in procur-

at the New Year's reception, at the Elysée, I intimated to you that I was in receipt of a dispatch from Mr. Frelinghuysen, in which he requested me to express to you his appreciation of your course in the matter, which I now take pleasure in doing more fully than I could yesterday.

"I have to request you," says Mr. Frelinghuysen, "to convey to the minister of foreign affairs the expression of the very great satisfaction which the liberal and enlightened course of the French authorities in reference to this matter, based when the request in hea efforded this Cavernment." upon thorough scientific investigation, has afforded this Government.

It is the hope of my Government, and my own, that this liberal action of your excellency will be continued, and that you will be able to bring about a permanent and satisfactory settlement of this question, which has been so unexpectedly and so unfortunately reopened by the resolution of Mr. Paul Bert.

I avail, etc.,

L. P. MORTON.

[Inclosure 4 in No. 466-Extract from the Paris Morning News.]

We have received the following dispatch:

"WASHINGTON, December 30, 1883.

"The Secretary of State has telegraphed to the American minister at Paris that a competent expert, Mr. Curtis, appointed by the Department of Agriculture to make an investigation as to trichinosis, reports officially that no disease exists among American hogs."

At a meeting of the Association of Western Swine Breeders it was unanimously resolved that in the five great producing States-Ohio, Illinois, Indiana, Michigan,

and Wisconsin-no disease whatever existed among swine.

The discrimination of the French authorities against American pork is, therefore, made directly in the face of the evidence. A competent expert, appointed by the United States Government, reports that the disease, against which the prohibitive French legislation was directed, does not exist. As the object of such legislation is not to prohibit the pork itself, there appears to be, under the circumstances, no good reason for its continued existence.

GERMANY.

No. 57.

Mr. Davis to Mr. Everett.

No. 301.7

DEPARTMENT OF STATE, Washington, February 8, 1882.

Sir: I inclose herewith for your information a copy of a letter from Messrs. William Archdeacon & Co., of Indianapolis, Ind., stating that they have been advised that the German authorities have prohibited the importation of 100 barrels of pigs' tongues shipped by them to Altona, Germany, and also that a general prohibition has been issued by the Government of Germany against American pork.

I will thank you to lose no time in calling the attention of the German foreign office to the case of William Archdeacon & Co., with a view to securing for them

such relief as the facts may be found to make necessary.

I have, furthermore, to instruct you to report to this Department at your earliest convenience all the information you may be able to obtain as to any recent action by the German Government in reference to the importation of American pork into Germany and all the facts which may tend to throw any light upon the subject.

I am, etc.,

J. C. BANCROFT DAVIS, Acting Secretary.

[Inclosure in No. 301.]

Messrs. William Archdeacon & Co. to Mr. Frelinghuysen.

Indianapolis, February 5, 1882.

DEAR SIR: We received an order early in December from Altona, Germany, for 100 barrels of pigs' tongues, and shipped same early in January. We are now in receipt of a letter from the bank in Hamburg saying "that American pork has been prohibited in Germany," and our goods will not be allowed to land there.

The shippers and shipping agents from whom we have sought information deny

that such is the case, and our goods in the meantime lie there.

If you can give us any information on the subject, you will confer a favor on Yours, respectfully,

WM. ARCHDEACON & Co.

No. 58.

Mr. Everett to Mr. Frelinghuysen.

No. 298.7

LEGATION OF THE UNITED STATES, Berlin, February 23, 1882. (Received March 18.)

Sir: I have the honor to acknowledge your instruction No. 301, of the 8th instant, received this day, inclosing a complaint of Messrs. William Archdeacon & Co., to the Department of State, that the importation of American pork had been prohibited in Germany, and that they are thus prevented from bringing into Germany 100 barrels of pigs' tongues, which they have shipped to Altona, and directing me to call the attention of the foreign office to the matter.

In reply I have the honor to state that this prohibition of the importation of pork is not new, but dates back to June, 1880. On the 29th of June, 1880, Mr. White informed the Department by telegram, as also in dispatch No. 136, of the prohibition by imperial decree of the 25th June, 1880, of the admission of all kinds of pork, except hams and sides of bacon, and inclosing a copy, with translation, of the decree. Mr. White at the same time stated that in an interview with Mr. Von Hoffmann he had ascertained that the reason of the prohibition was that triching could not easily be detected except in these two forms of pork.

From the special mention of hams and bacon in the decree I have no doubt that tongues are included in the category of forbidden forms of pigs' flesh, but I will, in accordance with your instructions, address the foreign office on the subject, and ascertain whether there is any special exemption for pigs' tongues, and, in case there is not, whether it would be possible to pass this one shipment of Messrs. Archdeacon & Co., after a rigid inspection to insure the pigs' tongues being in a

fit condition for food.

I would also state in this connection that in December, 1880, Messrs. Armour & Co., of Chicago, the largest pork packers in the world, addressed a similar complaint to this legation that they were debarred by the above-mentioned decree from exporting their canned brawn to Germany, and they claimed that this particular preparation of pork was safe from the danger of trichinæ, as it had been subjected to a temperature of 250 F., a certificate of which could be sent with each shipment. They were advised, in reply, to lay their case before the Department of State, which would then instruct the legation to intervene in the matter if it should be thought best. I trust that I shall not be exceeding my instructions if I include Messrs, Armour & Co.'s grievances with those of Messrs. Archdeacon & Co. in my note to the foreign office.

I have, etc.,

H. SIDNEY EVERETT.

No. 59,

Mr. Everett to Mr. Frelinghuysen.

No. 308.]

LEGATION OF THE UNITED STATES, Berlin, March 27, 1882. (Received April 13.)

SIR: Referring to your instruction No. 301, of the 8th ultimo, and my reply to the same of the 23d ultimo, I have the honor now to inclose the correspondence between this legation and the foreign office on the subject of the importation of pork products, by which it will be seen that the German Government refuses to modify its prohibitive decree of the 25th June, 1880, so as to allow the consignment of pigs' tongues from William Archdeacon & Co. and the brawn of Messrs. Armour & Co., of Chicago, to euter Germany.

I have, etc.,

H. SIDNEY EVERETT.

[Inclosure 1 in No. 308.]

Mr. Everett to Count Hatzfeldt.

LEGATION OF THE UNITED STATES, Berlin, February 24, 1882.

The undersigned, chargé d'affaires ad interim of the United States of America, has the honor, under instructions from his Government, to call the attention of his excellency Count Hatzfeldt, provisional secretary of state for foreign affairs, to the subject of the prohibition of importations of the flesh of pigs into Germany under the imperial decree of the 25th June, 1880, and to respectfully inquire whether this decree is still in force, and if so, whether it would include the tongues of pigs alone, which are exported from America packed in barrels. A large quantity of this article has been sent out to Germany by the firm of Archdeacon & Co., of Indiana, United States of America, but is now waiting at Altona on account of the refusal of the customs officials to allow it to pass, and the undersigned would respectfully ask if the consignment in question can not be allowed to enter after a proper inspection to make sure of its being in a suitable condition for food.

The undersigned, in this connection, would also ask whether such preparations of pork as are known as "brawn," in soldered tin cans, which have been subjected to a temperature of 250 F., would be allowed to enter Germany if they were accompanied by an official certificate that they have been subjected to this heat, which, it is believed by chemists, removes all danger from the germs of trichine.

The undersigned, while respectfully requesting an early reply, as the goods referred to are now at Altona awaiting the decision of the German Government, avails himself of this occasion to renew to his excellency the assurances of his most distinguished consideration.

H. SIDNEY EVERETT.

[Inclosure 2 in No. 308. -Translation.]

Mr. Busch to Mr. Everett.

FOREIGN OFFICE, Berlin, March 22, 1882.

The undersigned has the honor to inform Mr. H. Sidney Everett, charge d'affaires of the United States of America, in reply to the esteemed note of the 24th ultimo, concerning a consignment of American pork which has been detained at Altona, that the prohibition of June 25, 1880, is still in force and is especially applicable to prepared pigs' tongues.

After a careful examination in the proper quarter of the facts in the case, it has not been considered feasible to make an exception to the existing prohibition in favor of the large consignment of pigs' tongues and the preparation known as

"brawn" referred to in the esteemed note.

The undersigned avails, etc.,

BUSCH.

No. 60.

Mr. Brewer to Mr. Davis.

[Extract.]

No. 23.]

UNITED STATES CONSULATE-GENERAL, Berlin, March 30, 1882. (Received April 19.)

Sir: I have the honor of again calling your attention to the agitation which is going on in Germany touching American meats and the importation of the same into this country. On the 18th of March last an editorial article appeared in the North German Gazette (Norddeutsche Allgemeine Zeitung), which clearly shows the means which are being used to prejudice the minds of the people here against the use of American meats. * * * So much has heretofore been written upon this subject that I deem it useless to further comment. We have caused the editorial referred to to be translated, and he ewith inclose the translation.

I am, etc.,

M. S. Brewer, Consul-General.

[Inclosure in No. 23.—Extract from the North German Gazette of March 18, 1882.—Translation.]

American competition in meat, etc., which is of late more and more felt by German cattle breeders and dealers, makes a close examination of the extent which imports of American meats have assumed and are capable of assuming of interest and importance. While hitherto only lard, ham, bacon, and salt meats of all kinds were exported from America, recently exports to France and England of not only fresh meat, but also of live stock, have been made, and the enterprise has met with considerable success. As appears from an American journal, The Farmer, a union of marine insurance companies, "The Cattle Lloyds," has been formed, with the aim, by especial arrangements and provisions respecting the treatment and feeding of cattle while being transported, of reducing to a minimum the risks and losses in exporting cattle.

According to the Statistical Abstract of the United States, the exports of meat

from July 1, 1879, to July 1, 1880, were as follows:

	Value.
Bacon and ham, 759,773,109 pounds.	\$50, 987, 623
Fresh beef, 84,717,194 pounds	7, 441, 918
Salt meats, 45,237,472 pounds	2,881,047
Lard, 374.979,286 pounds	27, 920, 367
Fresh mutton, 2,335,858 pounds	176, 218
Pork, 95,949,780 pounds	5, 930, 252
Live stock:	
Neat cattle, 182,756 head.	13, 344, 195
Hogs, 83,434 head	421,089
Sheep, 209,137 head	892,647

In 1880 the imports of American meat into Germany were as follows:

Meat, fresh and prepared, ham, bacon, and sausage, to the value of \$4,963,014;

and lard to the value of \$11,160,050.

Now, if the steady increase of the importation of American meat into Germany continues, and notwithstanding the duties, which are altogether too low, it assumes, as the above figures go to prove, such an extent, it will be but a natural consequence that American meat products will drive the German out of the market.

The United States commercial agent at Geestemunde reported to his Government that owing to the importation of American provisions many butchers and meat dealers at Bremen and Hamburg were compelled to abandon that line of business, they being unable to stand the American competition; that American articles had totally destroyed the meat export trade at the German seaports, once so flourishing; that German vessels running between German and American ports took in supplies of beef, pork, and other provisions in America sufficient to last for the trip to Germany and back.

Of much more serious consequence, however, than the mere rapid increase of American meat importations into Germany is the fact that the quality of such importations must, unfortunately, frequently be pronounced detrimental to health. This fact, in many cases admitted even by the American papers, such as the Lancet, Grocer, Herald, Davenport Daily Gazette, was most thoroughly discussed by one of the leading authorities in veterinary science, Professor Dr. Roloff, privy sanitary counselor and director of the Royal Veterinary School, who, in the sitting of the German Society for Public Hygiene, on the 16th of May, 1881, delivered an address on "American canned meat". The speaker showed that the con-The speaker showed that the conered an address on "American canned meat." sumption of American provisions in many cases was very dangerous; that diseases of animals were communicable to men, and therefore the meat of diseased animals must be considered as unfit for use or consumption; that in America the official inspection of animals is not provided for, and it can at best in but few cases be ascertained whether the meat is taken from diseased animals or not. Therefore the consumption of American meats would, at any rate, be connected with more danger than the consumption of domestic meats, since a strict inspec-

As appears from statistics of the United States, from the 1st of July, 1876, to July 1, 1877, about 23,000,000 pounds of meats, and in each of the following years about 25,000,000 pounds were exported from the United States, 5,000,000 pounds

of which went to Germany.

Mr. Köhler, a veterinary surgeon at Hamburg, has found, among 55,800 hams and 22,700 sides of pork, 1 per cent infected with triching, while others found even 4 per cent of meats imported from America infected with triching. Dr. Billings, a young physician in America. found 154 among 2,700 hogs in America to be infected with trichinæ. Trichinosis, however is not the only disease to be found, as many other cattle diseases exist in America, which are equally if not even more dangerous. Besides inflammation of the milt and "wild fire," disease, the "yard fever" (Hoffieber), had made its appearance in so malignant a form that in the State of Illinois alone 1.000,000 hogs died of it within one year: and it may safely be taken for granted that the meat of these animals was canned. Among American neat cattle malignant epidemic diseases are by no means on the decrease. The Texas "fever," a disease resembling the rinderpest, has been especially severe. No doubt can be had but that much of the flesh of cattle affected with such diseases has been used for corned beef. Mr. Meier, a chemist, has found lead in canned corned beef in large quantities.

It must be admitted that the transportation of cattle from Texas. Kansas. and Colorado, some 1,500 miles, to Chicago, where the meat is preserved, gives rise to many diseases, so that a very large percentage of the animals from which the canned corned beef is made may fairly be supposed to be diseased. Moreover, even American papers have called attention to the fact that not only horse meat but also the meat of diseased animals is regularly put upon the market. Canning meat assuredly does not destroy such diseased matter as may be contained in the meat, as many cases of sickness have ensued after the consumption of such canned in at. tion to all these objections it is a question whether this corned beef is of any advantage financially, or rather economically. A 2-pound can contains about 700 grams of eatable meat and costs 1.75 marks, which is much more than what domestic

meat of the same kind costs.

The above important facts of so great public interest being established, doubts may be raised as to whether the ordinance of June 25, 1881, prohibiting the importation into Germany of chopped, minced, or otherwise prepared American pork is sufficient protection. Like apprehensions have induced Austria-Hungary to prohibit the importation of American meats and prepared meats of any kind whatever. The minister of foreign affairs at Vienna, in reply to a protest raised by the American minister against the prohibition of the importation of American meats, stated that the intent of the provisions of article 5 of the treaty of commerce and navigation, concluded August 27, 1829, could not possibly go so far as to prohibit the contracting parties from taking such measures as necessity should demand for the protection of their sanitary interests.

The sanitary congress, which met at Amsterdam in 1879, has unanimously pronounced the opinion that the importation into Europe of American pork of all kinds should be prohibited.

No. 61.

Mr. Sargent to Mr. Frelinghuysen.

[Extract.]

No. 74.]

LEGATION OF THE UNITED STATES, Berlin, November 6, 1882. (Received November 25.)

Sir: I have the honor to state that there is renewed agitation in Germany against the introduction of American pork, and I am informed that a bill has been prepared, with the Emperor's approval, to be submitted at the forthcoming session of the Reichstag, as a Government measure, to prohibit the importation of all American pork, including hams and live animals. Heretofore adverse action has only extended to sausages and chopped meat. This was excluded on the ground that it contained triching, and from its nature, being hashed, these could not be detected in it. These articles of trade were excluded on the ground that the public health required it and could not be otherwise guarded. * * * American pork enters into competition with the domestic article, and very largely, and is afforded much cheaper than the domestic article can be. * * * The proposed law does not, as I am informed, proceed upon the theory that American pork is put in disguised forms, in which ordinary care would not detect disease, but assumes that all American pork and swine are dangerous from disease, and the task of discrimination among them is useless trouble. So far as I have been able to learn up to this time, American lard is not among the prohibited articles, although it embraces a large item in our exports to this country. Whether it will finally be excluded depends in some measure upon the power of the interests adversely affected by it. * *

This exclusion of a great article of American product comes just at a time when trade reports show an unexampled export of German manufactured articles to the

United States.

American competition is a sore point in Germany, and qualifies to some extent the views entertained here of America. Although we are large customers of the mass of German products, many of ours, including some manufactures, as well as wheat, etc., bear hard on certain interests here, and cause a clamor for special relief. This can not always be granted without an appearance of unfriendly dis-

crimination against a friendly power. * *

Of course this bill is now only proposed. There are interests here opposed to its enactment. Hamburg, Bremen, Stettin are largely concerned in the commercial aspects of the matter. They will be injured by the stoppage of the carrying trade in American pork. Merchants dealing in this article in its various forms will object. Some of the newspapers call attention to the fact that there would be reasons to regret the adoption of such a measure in that it would render meat dearer to the mass of people and restrict the consumption of meat by the poor. I inclose an article from the Tageblatt of the 3d instant, in which this view is taken, and wherein the cheapness of American pork in comparison to that raised here is given as a reason why the poor should have a chance to buy it. It also believes it yet unproven that the American article is so unwholesome as to justify its exclusion. I shall keep watch of this matter and further report to you its progress.

I have, etc.,

A. A. SARGENT.

[Inclosure 1 in No. 74.—Extract from the National Zeitung of November 2, 1882.—Translation.]

We are informed that with the Emperor's approval the draft of a bill looking to the prohibition of the importation of American swine, pork, and sausages has been laid before the Bundesrath. The reasons given for this measure are the frequent cases of trichinosis, as well as the prevalence among the pigs of an epidemic disease which is alike dangerous to man and beast, and it is for these reasons that the Imperial Government deems it expedient to prohibit their importation in the future.

[Inclosure 2 in No.74.—Extract from the Berlin Tageblatt of November 3, 1882.—Translation.]

Should this prohibition go into effect we should have cause to regret it, for the reason that it would result in making meat dearer to the mass of people, or even restrict them in its consumption. American meat undoubtedly is, and always was, cheaper than the domestic article, and the claim that it is unwholesome is not sufficiently proven to justify its exclusion from our market.

No. 62.

Mr. Sargent to Mr. Frelinghuysen.

[Extract.]

No. 77.1

LEGATION OF THE UNITED STATES, Berlin, November 13, 1882. (Received December 4.)

Sir: I have the honor, referring to my dispatch of November 6, being No. 74, referring to the exclusion of American hogs, pork, and lard from Germany, to now inclose two very exhaustive articles from Berlin Tribune of the 10th and 11th instant, with careful translations. The articles present very fairly the effects which the proposed exclusion would have upon the trade of Germany and upon the subsistence of the poorer classes, and prove by irrefutable facts that the clamor against these productions is born of prejudice. * * * The articles are written in admirable temper, and it is to be hoped will have weight in showing to the German statesmen and public the truth in a matter so important to the interests of both countries.

I have, etc.,

A. A. SARGENT.

[Inclosure in No 77.—Extract from the Berlin Tribune of November 10 and 11, 1882.]

THE PROHIBITION ACT.

I.

An imperial decree was lately laid before the imperial Diet (Bundesrath) regard ing the prohibition of the importation of pigs, pork, and sausages from the United States. As regards American sausages, they were excluded from importation some time ago. This prohibition seems justifiable on the ground that the nature of this article of food renders an inspection difficult: whereas it is very easy in the case of pigs and pork. It would be hard to conceive why our meat supply from this quarter should encounter such opposition, if we ignored the fact that a more or less artificial agitation against the importation of American meat had been set on foot long ago. It is only too apparent that this agitation is more in the interest of our cattle breeders than of our poorer classes. Our farmers fail to understand that the development of our industries entails a constantly increasing demand for food from foreign sources to supply the people engaged in them. From a grain-exporting country we have finally become a grain-importing country, and we are likewise obliged to import a constantly increasing quantity of meat, the home supply having become inadequate to meet the demands of our growing population. This applies to all Europe, but more especially to Germany. Although the actual number of live stock has greatly increased in the last fifty years, the relative number has materially diminished. In 1830 there were in Europe 704 million beeves, 164 million sheep, and 424 million swine; in 1875 there were 884 million beeves, 191 million sheep, and 431 million swine, the latter number, as will be seen, having remained almost unchanged. The relative number of live stock, on the other hand, gave to every 1,000 inhabitants in Europe-

	Beeves.	Sheep.	Swine.
1830	32×	764	197
1880	310	682	156

Still more remarkable is the disparity between the increase of the population and the increase of live stock in Germany. Whereas the population in the German Empire in 1860 was 37.7 millions, and in 1870, 40.8 millions (about 10 per cent increase), the number of live stock has increased only as follows:

	Beeves.	Sheep.	Swine.
1860.	14, 999, 194	28, 016, 769	6, 462, 572
1873.	15, 776, 702	24, 994, 406	7, 124, 088

According to these statistical results our importation of cattle and animal prodactivities to these statistical results out importation of cather and attribute and attribute to be increased year after year. The annual statistics for the German Empire show that there were, for instance, in the year 1861, 548,737 pigs imported; in 1880, almost twice that number, i. e., 1,104,321. The past year this number was still further increased by the importation of sucking pigs to 1,272,816, whereas the exportation amounted to 804,867 head.

It can, therefore, no more be a question whether or not we are to import meat products, but from which source we can draw the best and cheapest article. Whereas formerly Russia and Austria-Hungary supplied the German markets with cattle, America, which is sending its enormous meat products to all Europe, has now also entered the lists with these States in Germany. For several years atready a regular line of ships has been organized for the transportation of live stock to England. As yet Germany is supplied principally with salted and corned beef, lard, and pork only. The United States are, by reason of their enormous wealth in cattle, peculiarly adapted to supply Europe with meat, to give us from their superabundance what we lack. In a comparatively short time the exportation of fresh meat in ships supplied with refrigerators has assumed astounding proportions. In 1875-76 the export of fresh and salted meats amounted to 361 million pounds, valued at \$3,000,000; from 1878-79, 54,000,000 pounds of fresh meat, valued at \$4,800,000, and of salted meat 37,000,000 pounds, valued at \$2,300,000. ing to official statistics there were in 1878 in the United States:

Total for every 1,000 inhabitants:	
Beeves, 30,523,400	653
Sheep, 35,740,500	764
Swine, 32,262,500	690

With this natural wealth is combined the advantage of a very good quality. The manner of fattening cattle in the extensive fields of ripening corn on which the cattle are driven makes it possible for the Western farmer to raise cattle and render the meat of a quality which can not be attained in any other manner. this manner the cheapness of the meat is explained. According to Neumann and Spallart, the best quality of beef brought 11 to 12 cents per pound in New York. The exportation of pork products (meat, hams, pork, and lard) has been the most extensive. In 1879 itreached the following enormous figures: 1.081,892,318 pounds, estimated at \$77.356,947, but in 1880 these figures were exceeded by 1,326,157,330 pounds, valued at \$100,799,414.

It is only too apparent that the importations of such quantities of meat for the European markets will tend to lower the price and bring it within the reach of the poor classes. Under all circumstances the supply of the European markets with American meat has become a real blessing to our poor people, whose standard of life has been materially improved. When in February of last year the French Government prohibited the importation of American salted pork, the price of meat rose in the following month in the seaports 25 per cent; so also poultry and other animal food (see official report of Consul Bridgeland, in Havre, July, 1881). It is now proposed to decree a similar prohibition in the German Empire. If, therefore, we oppose this measure we do so solely because the prohibition of the kind proposed will rob the poorer classes of the means of procuring cheap and

wholesome nourishment and sink them to a lower grade of subsistence. instance, has become an important and extensively used article of food only through the American import, whereas German lard was formerly and is still a luxury. In 1870 American lard cost 70 marks per 100 kilograms (200 pounds); German lard 160 marks. At present the comparative prices of lard are 125 marks and 145 marks per 100 kilograms. In 1881 and the first half of 1882 Westphalian and Oldenburg hams cost 1.05 to 1.10 pfennige per pound; American hams, 60 to 64 pfennige. At present German hams cost 1.05 to 1.10 pfennige; American, 63 to 631 pfennige per pound.

None the less these advantages would not weigh with us if it could be proven that the imported American meats, as far as the pork production is concerned, are injurious to health. In that case we would urge the exclusion of American meats as strenuously as we would in the case of Russian and Austro-Hungarian produce. But we could not, after a careful inquiry into the matter, discover that it was based on anything more than an unfounded prejudice and a superficial knowledge in the premises, premising, however, that the agrarian interests formed no part of the question. In a second article we shall enter more into the details of this

question.

II.

At the time the abolition of the duty on lard was discussed in the Reichstag the director of the ministry, the present secretary of state, Burchard, declared that "trichinæ can not be detected in lard, but lard can be made from pigs infected with diseases, and any one who has given the subject any attention knows that a disease prevails or prevailed to a large extent among the pigs in America which was called the hog cholera. Fears were openly expressed and evidence has been obtained to show that these fears were well grounded; that a large number of these pigs were killed and used in the manufacture of lard." We do not know whether the Government has since obtained more plausible reasons to justify the proposed prohibition, but the reasons as given in the above explanation are alto-

gether inadequate.

As far as the report of the employment of infected and dead pigs in the preparation of lard is concerned, it may be well to state that at the first appearance of the report, in February of last year, the New York Produce Exchange, foreseeing the danger which threatened the export trade, made representations to the United States Government, which immediately ordered an investigation in the premises. At the instance of the then Secretary of State. Mr. Blaine, Mr. Michael Scanlan, chief of the statistical bureau, made a most searching investigation into the matter at Chicago and Cincinnati, the centers of these industries, the result of which was published in the spring of that year in a pamphlet entitled "American pork; result of an investigation made under authority of the Department of State of the United States." Mr. Scanlan had received strict injunctions to subject every phase of the pork industry, from the rearing of pigs to the manufacture of the pork products for consumption, to a most minute investigation. Accompanied by a stenographer and experts, he visited the principal breeders of pigs, traders, and exporters, packing houses, cattle yards, abattoirs, and shippers, instituted meetings of those engaged in the trade, subjected them to cross-examination; in short, he fulfilled his mission so thoroughly that we lay down his report to Mr. Blaine (in which all the material was inclosed for his consideration) with the fullest conviction that here a thoroughly competent man has done all that could be done in the matter.

Mr. Scanlan first went to Illinois to investigate the extent of the "hog cholera." Nobody made a secret of the fact that this disease infected the hogs for several years and cau-ed sad havoc. The department of agriculture of that State published the following exhibit of the losses. (The first figures show the percentage

of the hogs that died of the disease; the second, proportional weight.)

Year.	Per cent.	Pounds.
1876	17	103
1877	12	104
1878	14	108
1879	6	98
1880	7	104

According to official statistics there were in the State of Illinois for several years past 3.133,557 swine, of which 227,359 died. While, on the one hand, the percentage of loss during the last five years decreased from 17 to 7 per cent, it was ascertained that, on the other hand, all cases of death were attributed to hog cholera, even if death had ensued from other causes. A classification of the causes of death was not made—not even in the case of death by accident. It was further ascertained that in the above statistics no difference was made between pigs and hogs. The name "pig" is applied to the sucking pig until it is six months old; it is only after this age that it becomes marketable and is then called "hog." In Europe this distinction, as made repeatedly by Mr. Scaulan, is unknown: hence the groundless and exaggerated fears. The living weight of hogs marketed is between 250 and 260 pounds, whereas the average weight of the pigs that have died is 103 pounds, which is conclusive evidence that the hog cholera carries off the sucking pigs. "But the presence or absence of this disease exercises, as has been proven, no influence whatever upon the quality of the hogs sent to market, or upon the quality of the hogs to the sucking pigs to dispose of a hog that died by disease or accident for purposes of consumption."

We have no time to enter into the details of the minute description of the breeding, fattening (in the open air in cornfields, and a continual supply of pure water), or the transportation. Anybody at all acquainted with the subject knows that it is impossible to conduct the whole business in a more rational manner. On the

arrival of a shipment of pigs at the cattle yards "the dead hogs (for in spite of all precautionary measures deaths in the cars, through suffocation, exhaustion, and want of water, will occur) are taken in charge by the officials of a company, which, by a concession, has the sole right to confiscate all dead animals within the cattle yards. This company fixes such price as it deems proper to be paid to the owner of such pigs—a price so advantageous to the company that that alone would be a guaranty for the watchfulness of its employees. It is not probable that a dead pig would escape the vigilance of these interested parties." In Chicago the Union Rendering Company is established, having its establishment at Globe Station, near Chicago, where the confiscated dead hogs are boiled down into tallow and grease (white and brown grease); the offal is used for manuring purposes. The grease is sold to soap factories.

There are houses in Chicago which, owing to excellent machinery and other technical arrangements, can kill and prepare 4,000 swine daily. The Anglo-American Packing and Provision Company has packed in the two seasons, from March 1, 1880, to March 1, 1881, 1,166,377 hogs; Armour & Co., in Chicago, 1,210,092 head. In all there were packed in that city 5,693,569 head.¹ This is an exceptionally extensive industry. To assume that an industry which is carried on with such painstaking cleanliness and such order and regularity would expose its interest to the danger of ruining the entire product by introducing diseased swine would indicate a total ignorance of the principles underlying its prosperity. The American speculates, but he does not adulterate, for he well knows that he would ruin his trade forever. "To mix and to fix" is better understood in Europe than

in America.

Regarding the trichinæ, the report affirms that the inhabitants of America are the greatest pork-consuming people in the world, and that the people in the rural districts eat it two or three times a day without the slightest fear of trichinæ. Of course only the most thoroughly boiled meat is eaten. In fact, our habit of eating meat in a raw state is looked upon in France, England, and America as barbarous. Of 40,000 deaths in Chicago only two were traced to trichinæ, and in Cincinnati none have died through this cause for a number of years. The report assumes the percentage of American swine infected with trichinæ, owing to the superiority in breeding and fattening, to be much smaller than the swine in any other part of the world. An obligatory inspection of swine can not be introduced in a city where daily 16,000 to 18,000 hogs are slaughtered. An inspector of meat can inspect at the highest only 30 pigs per day, nor so many thoroughly. There is no reason to doubt the thoroughness of this official investigation unless we would doubt the integrity of Mr. Scanlan and the honesty of purpose of the United States Government. This our Government will certainly not do. We may, therefore, inquire, Are they cognizant of this investigation? Have they, nevertheless, other reasons for decreeing this prohibition? On reading the remarks made by Mr. Burchard we are almost compelled to assume that he was specially ignorant of the true state of affairs and that his assertions were based solely on hearsay. Of course, since the retirement of Mr. Delbrück, we are accustomed to see every new economic measure proposed by the Government end in a miserable failure, and on the whole it is not worth the while to devote any serious consideration to such general and superficial remarks as were made in the debate in the Reichstag on the 7th June by the opponents to Mr. Booth's bill.

While on the one hand a prohibition of the importation of American pork would deprive the population of a cheap and nutritious article of food and destroy the pork and beef trade in the German seaports, the question arises on the other whether it is wise, from a commercial point of view, to introduce a prohibitive policy toward a country which is purchasing a constantly increasing portion of our manufactured wares. The United States have paid for 257,000,000 marks' worth of German wares between the months of October 1, 1881, to September 30, 1882; that is to say, for about 56,000,000 marks more than in 1880-81. Will we then insist in forcing them to adopt measures of reprisal in which we would certainly be the losers, because our exporting interests in America are greater? We fail to see in any quarter any cogent reason for the introduction of a prohibitory measure, for we can scarcely believe that the agrarian interests should alone be the motive for such a measure, for there are too many weighty and general

interests involved in the question.

¹We have in Germany a large packing-house of this kind—J. D. Koopmann, Hamburg—which packs 130,000-140,000 German pigs yearly, exclusively for London.

S. Doc. 231, pt 4——40

No. 63.

Mr. Bailey to Mr. Davis.

No. 86.1

UNITED STATES CONSULATE, Hamburg, November 20, 1882. (Received December 8.)

SIR: I have the honor herewith to transmit a translation of the leading editorial in the Hamburg Handelsblatt of November 10, 1882, together with the original.

The Handelsblatt is the chief commercial paper of Hamburg, and the article is from the well-known pen of its efficient and impartial editor, Mr. Franz Rosatzin. For some time past there has been much discussion throughout Germany, and especially at the centers of commercial business, concerning the importation of pork and hams from the United States.

As is well known, the people here do not eat as much meat of any kind as in America, chiefly on account of the high prices demanded for such articles.

The newspapers throughout the Empire have from time to time called the attention of their readers to the great danger (as they regarded it) to health and life in eating American pork and hams. Many educated and intelligent men have also promulgated the same notions, and now, go where you may and converse with whom you please, you will generally find a widespread prejudice against this American article of consumption on account of the suspected trichinge.

Of course, there is no real foundation for all this fear and talk, but that it largely

exists is indisputable.

It is also well known here to some, but not to the masses, that American pork and hams are imported and afterwards branded and sold as domestic meats, thereby

enabling sales to be made at higher prices.

I have yet to learn of any deleterious effects or fatal cases arising from eating our pork and hams, but every American in Europe knows perfectly well the almost universal bias that exists here against all American productions, and our exports to Germany would be almost stayed were we not able to successfully compete in prices and superiority of article and manufactures.

If the proposed legislation is enacted and the gate is shut against our pork, hams, and lard, I may venture the opinion that the people of Germany will soon realize the enhanced cost of living and that the race is not essentially healthier and

stronger for such exclusion.

1 am, etc.,

J. M. BAILEY. United States Consul.

No. 64.

Mr. Frelinghuysen to Mr. Sargent.

[Extract.]

No. 66.]

DEPARTMENT OF STATE. Washington, November 28, 1882,

SIR: Your dispatch No. 74, of the 6th instant, in which you communicate to the Department the fact that you have received information to the effect that there is renewed agitation in Germany against the introduction of American pork and that a bill has been prepared for submission to the Reichstag prohibiting the importation of this important article of our foreign commerce, has been received.

Thanking you for so promptly calling the attention of this Department to the matter, I have to request you to lose no suitable opportunity to oppose the measure

and to show that it is groundless and unjust.

I am, etc.,

FREDK. T. FRELINGHUYSEN.

No. 65.

Mr. Sargent to Mr. Frelinghuysen.

No. 85.1

LEGATION OF THE UNITED STATES, Berlin, December 11, 1882. (Received December 29.)

SIR: I have the honor to state that the following is the draft of the ordinance that has been presented to the German Federal Council for the prohibition of the importation of American pork products, viz:

1. The importation from America (the United States) of pigs, pork, bacon, and

sausages of all kinds is forbidden until further notice.

"2. The imperial chancellor is empowered to permit exceptions to this prohibitive rule, subject to the necessary measures of control.

"3. The restrictive ordinance of the 25th June, 1880, with respect to the impor-

tation of pork and sausages from America, is abolished.

"4. The present ordinance comes into force thirty days after its promulgation." Commenting on the above, the Berlin correspondent of the London Times, usually well informed and impartial, but in this case evidently * * * catching at superficial appearances, has the following, under date of November 30, 1882.

"The prohibitive ordinance of June. 1880, above referred to, only applied to the importation of minced pork and sausages, but not to hams, etc., it being supposed that microscopic examination of the latter would secure the exclusion of unwholesome consignments. But it has been found impossible to exercise a rigorous surveillance in this respect, and as it is known that American pigs suffer much more than the German from trichinosis, as well as from the infectious disease called hog cholera, the German Government feels compelled to take effective measures against the introduction of the dreaded germs. It is urged that the commercial and financial importance of the measure is not considerable. Live pigs are not imported into Germany from America in very large numbers, and of hams, pork, etc., only about 3 per cent of the total national consumption; so that the difference could easily be made up by native breeders, or be derived from other states, such as Russia."

The correspondent accepts, as in good faith, and apparently without personal examination, statements to the prejudice of American pork as compared with the German article, which are totally unfounded, as also that the trade interests

involved are very slight.

On the other hand, a very strong memorial, in admirable temper, had been presented to the Bundesrath at the time this correspondent sent his dispatch by a committee appointed by a meeting of merchants at Hamburg interested in the American pork trade. This memorial, a copy and translation of which I inclose, shows by facts and irrefutable logic that the pretense that American pork is peculiarly diseased is the result of misinformation, and that the German trade interests in this article are very great.

The basis of this memorial is the report on this whole subject, made in May, 1881, to the State Department. I do not know how fully this report was circulated in Germany, but its conclusive statements are used with great effect in this memorial, and are proffered by the latter to the minds it is most necessary to

influence.

The memorial alleges that the principal danger from pork consumption is from the use of native pork, which can not be subjected to the inspection which can be applied to the imported article, and points out as a fact that notorious recent cases of infection have arisen from the use of German pork. It has been conveniently assumed heretofore that pork in which trichinæ were found was American, the proof of its being American being that it contained trichinæ. The singular fact is stated that German pork is sold by the producers at higher prices than the imported article, the producers then buying the cheaper American article for their personal use.

The effect on the poorer classes by depriving them of a food necessary for their physical and mental development is well pointed out, and the loss of revenue is shown, amounting to 2,271,480 marks, which must be supplied by taxation on

other objects.

It is also shown that the loss to German shipping interests will be enormous, and the loss so occasioned will, in great measure, accrue to England, Holland, and

Belgium.

I am more than ever satisfied that there is no real foundation * * * in fact * * * for the assumption that sanitary reasons require this measure of exclusion. Such documents as that I transmit are conclusive to any unbiased judgment. The facts are too well supported, the arguments are too logical, and the illustrations too persuasive to leave a doubt. There is the pressure of the pork raisers in Germany back of the measure of the landed interest that is taxed by the tariff on many articles of consumption, and demands a monopoly in this market, an artificial scarcity, that their goods may be enhanced in price.

Singularly just at this moment the German press discusses the message of the President to reduce our import duties, by which it expects a large increase of German exportation to America. That justice requires careful * * * consideration of American claims has not apparently occurred to them, at least not in connection with this sweeping exclusion of American pork products.

I have, etc.,

[Inclosure in No. 85.—Translation.]

MEMORIAL OF HAMBURG MERCHANTS TO THE BUNDESRATH.

Hamburg, November 21, 1882.

The undersigned, citizens and merchants of this city, respectfully beg leave to make the following representations to the honorable Bundesrath for its consideration:

It having come to our knowledge through reputable journals that it was proposed to finally prohibit all importations of American pigs and pork into the district of the German Customs Union for sanitary reasons, a meeting of merchants engaged in that trade in this city was called on the 14th instant, at which the undersigned were authorized to call the attention of the honorable Bundesrath to such objections which, in their opinion, the proposed measure would encounter, not only from the interests involved at the places engaged in the traffic, which interests, however, we admit at the outset, will always have to give way to those of a more national character, but also, in a far greater degree, where national, economical, and fiscal interests are at stake.

If the reasons which on a former occasion led to the imperial decree of June 25, 1880, regarding the exclusion of chopped pork and sausages from America from Germany, are now also to be made to apply for prohibitive measures against other portions of pigs, such as are less easily controlled, as for instance, hams, shoulders, etc., they can not possibly be advanced to justify the projected prohibition against salt pork and bacon, for the reason that salt pork is only edible in a boiled state and trichinæ are never found in bacon. If, however, there should still be some apprehension that trichinæ might be contained in the small strips of meat that occur in bacon, the danger of infection could be reduced to the slightest minimum by the introduction of an obligatory inspection of the meat, which could be controlled at the ports.

But a comparatively greater danger lies in the consumption of our home productions, which can not be so easily controlled, and in which every part of the pig is employed in the preparation of food, and it is from this source that most of the serious cases of infection of which we read in the papers originate, as, for instance, the late case in Brunswick. Although we can not believe that in influential quarters any importance is attached to the newspaper reports regarding hog cholera, which are actuated by interested motives, we can not, nevertheless, refrain from calling attention to the official report made in May of last year to the American Secretary of State. Mr. Blaine, which sufficiently refutes the slightest suspicion that diseased pigs could be employed in the preparation of human food.

In this report, "Result of an investigation made under authority of the Department of State of the United States," it is remarked: "The fact can readily be attested to that all rumors and reports that American pigs that have died of disease, or even by accident, are ever sent into the market, either in the form of meat or lard, are founded on malice and ignorance; for it is quite impossible for the packer or lard renderer, however much he might be inclined to do so, to use the carcass of a diseased pig in the preparation of human food in any form that could escape detection even by the most superficial inspection."

The justness and warranty for the above remarks must be apparent to all who, like the undersigned, are acquainted with the true state of things from personal experience in the great American stock yards, and it is this fact which, in our opinion, imposes upon us the duty of making the following statement. By far the greater part of bacon that is shipped from America comes from Chicago, which place, as is well known, has not its equal on the face of the earth as regards the magnitude of its pork-packing establishments.

The shipments of pigs to that place frequently exceed 50,000 head per day, and there are often no less than 10,000 to 15,000 pigs packed, as is the technical term used for slaughtering and preparing the pigs for the market, per day. It must be quite apparent to anybody that so enormous an industry can only be conducted by means of the most careful classification of the work, and hence it follows that each separate branch of the work is done by such fixed rules that any deviation therefrom, as, for instance, the advancement of the interests of any single branch, would be highly prejudicial to the interests of the whole. The swine are driven into the stock yards (cattle yards of 1 square mile, English, in extent), and thence selected and purchased by agents, excellently trained and experienced in their calling, for the packers.

The company, a stock company with a large capital, to which the stock yards belong, has a contract with another company, the Union Rendering Company, according to which the latter company has the right and duty, and, as it derives large profits from it, the interest, to claim for itself all diseased animals.

From this arrangement, which has existed for years, it will be seen that it is utterly impossible to bring a diseased pig into market, and consequently it would be impossible for a packer, even if he desired to do so, to purchase a diseased

But the business of those packers, too, is so extensive, each one of them, and especially all of them who work for the European trade are so well known, and are such wealthy people, and have acquired so world-wide a reputation for their wares in consequence of their scrupulous, conscientious management of their business that their own interests would seem to compel them to exercise unceasing vigilance against any other than the best quality of absolutely healthy pigs ever

reaching the market under their names.

All cases, barrels, and boxes in which their wares are sent to all parts bear their firm's name, and it is known throughout the busin ss world with what justifiable pride these firms strive to send nothing but the best article into market. They are well aware of the injury that would be done to their interests if they could be ever justly reproached with shipping a bad or even inferior article. By these principles they demonst ate anew the fact that has been observed everywhere, that whenever a large commercial or industrial enterprise was made to flourish, it was done only by the application of honest principles, and herein lies, in our opinion, the best guaranty for the protection of the consumer.

The diseased animals are used exclusively in the preparation of grease, which, as is well known, is used only for technical purposes. Any attempt to mix it with pork productions designed for human food would lead to ruinous results to those engaged. Such a manipulation would be quite as foolish as an attempt on the part of a renowned brewery to mix a quantity of spoiled beer with that of an excellent quality in order to increase the quantity. All the above details are not only well known to American and European business men, but anyone having enough interest in the matter, and who has occasion to express an opinion upon

it, can easily inform himself as to their authenticity.

If, in the face of such well-known facts, it has still been possible to circulate the reports that, in our day even, diseased animals were intentionally and systematically used in the preparation of human food at the great American packing houses, we believe, until we have received proofs to the contrary, that they were circulated by mistake and on the strength of misleading statements. If we may now be allowed to regard the question from a national, economical point of view, we are convinced that a general prohibition would be greatly prejudicial to the interests of a great number of consumers, more especially to the poorer classes of our fatherland, without any advantage accruing to the German agriculturist. even be proven that such a prohibition would be injurious to the real interests of the latter. Of meat (salted, fresh, and prepared) there was imported into Germany, in-

TUDUM:	suweight.
1878	632, 235
1879	
1880	
1881	
1001	310, 000

Although the customs tariff makes no distinction between the kinds of meat, it is nevertheless well known to the initiated, and also apparent from the returns from the places whence these articles are principally shipped (Bremen, Hamburg, Belgium, and from the United States direct) that bacon is an important factor in

the foregoing figures.

Of late years the importation has been sensibly diminished, owing to the high prices which have been occasioned by the short crops in America. When, however, prices were moderate, and the shipments more extensive, it was possible to supply a large portion of our poorer classes, and notably in the industrial district of Germany, with an article of animal food in the form of cheap American bacon, so useful to this class and so necessary to their physical and intellectual development. The same state of things will again result from an increase in American crops, and nothing, in our opinion, could justify a measure which would deprive the classes in question of this so important article of food-not even a consideration for the interests of the German agriculturists-for what the latter produce in pigs and pork preparations brings such high prices, and during the period of cheap American pork brought such high prices, that our poorer classes could never think of purchasing domestic hams or bacon and lard to any extent worth mentioning.

On the contrary, it has frequently happened—and herein lies the proof of the above-made statement—that the unrestricted importation of bacon has redounded to the interests of the German agriculturists; that landowners and farmers have sold the swine raised on their lands for the high prices which were paid in the markets (the price seldom fell much below 50 marks for 100 pounds, no matter whether American bacon cost 30 or 75 marks per 100 pounds), and bought for their

own use the cheaper American bacon.

If, therefore, the sanitary reasons advanced for the prohibition and consumption of American bacon are not tenable, whereas on the other hand the interests of the poorer classes would seem to demand imperatively an unrestricted importation of this important article of food—and experience has taught us, moreover, that such importation can in no way be prejudicial to German agriculture—we may be pardoned for pointing out the fact that through a prohibitive measure the income from this source, which amounted to, in-

	Marks.
1878	948, 359
1879.	
1880	
1881	2, 271, 400

would cease, and the deficiency would probably have to be made good by the

imposition of heavier duties upon other articles.

We would also, in conclusion, refer to the enormous loss accruing to the German shipping interests (even the provisioning of the ships, as far as this article of food is concerned, would have to be done in foreign ports), as also to the extensive intermediate traffic in the article in question with Scandinavia and Denmark by such prohibition. This traffic, in case the transit trade were not also prohibited by an especial measure, would be unnecessarily lost to German shipping and German s man trade and be diverted into Belgian, Hollandish, and English channels.

We therefore take the liberty at this early day to express the hope that, in case a general proh bition should be considered inevitable, the honorable Bundesrath will be pleased to consider as feasible the request to retain to the seaports the international traffic in the articles in question as soon as the latter shall have adopted such measures that will prevent any of the prohibited articles from reach-

ing the German markets.
As any other motives for the contemplated prohibition than those alluded to have not been made public, as far as we are aware, we are constrained to confine ourselves to the foregoing statements and remarks, to which, however, we respect-

fully beg leave to make such further additions as occasion may offer.

We express the hope, however, that the honorable Bundesrath, in giving all due consideration to the German interests involved in the question, will come to the conclusion that the said interests do not require a prohibition of the importation of American pork and bacon, and that these two articles may be exempted from any prohibitive measure that may be adopted.

With all due respect for the honorable Bundesrath.

HEINRICH PFEIFFER, ED'M J. A. SIEMENS, GUSTAV J. J. WITT.

No. 66.

Mr. Sargent to Mr. Frelinghuysen.

[Extract.]

No. 87.1 LEGATION OF THE UNITED STATES, (Received January 5, 1883.) Berlin, December 18, 1882.

SIR: I have the honor to state, referring to my dispatches recently sent, stating the agitations for and against the prohibition of the importation of American swine products into Germany, that strong protests, similar to that of the Hamburg merchants, have been sent from Bremen and several other cities interested in the commercial aspects of the matter.

During the past week Herr Richter, the distinguished leader of the Progressist party in the Reichstag, made a powerful speech in opposition to the proposed exclusion, denying the soundness of the reasons adduced for such action and also the power of the federal council to make the prohibition without the sanction of

I presume you are aware that the proposition is pending in the Bundesrath and is to be effected by a simple order or decree of that body and is not to be adopted in the form of a law. In fact, it could not gain sanction as a law. In a more popular body, like the Reichstag, it would surely be defeated. * * *

The power is claimed for the Bundesrath under an article in the tariff laws of

July 1, 1869, which reads as follows:

"ARTICLE I. All productions of the nature of art or industrial productions may be imported into, exported from, or transported through the entire district of the

"ART. 2. Exceptional measures may be temporarily adopted under extraordinary circumstances for the prevention of dangerous contagious diseases, or for other

sanitary or precautionary reasons, for a part or the whole district.'

The power herein granted is obviously for temporary purposes and for emergencies. Some great and unusual calamity impending must have been in the minds of the legislators. * * * [No] emergency now exists nor disaster impends from the importation of American pigs or pork; certainly not one so threatening that there is not ample time for ordinary legislative processes.

In view of these obvious considerations it is alleged that the Progessist party intends making an interpellation in the Reichstag regarding the threatened prohibition of the importation of American pork products. This interpellation I find reported in one of the local papers as follows:

"In reference to the project now pending before the Bundesrath to prohibit the future introduction of American pork products, the undersigned would address the following inquiries to the imperial chancellor:

"1. Has the Bundesrath caused any statistics to be collected showing to what extent American meat products, especially bacon, are necessary articles of food to

a large class of the poorer people in different parts of the country?

"2. Does the Bundesrath propose to cause special statistics to be collected relating to the alleged unwholesome character of the American meat products at the

port of entry and at the place of origin of the article?

"3. Does the Bundesrath, apart from the question of a continual sanitary consideration in the premises, hold itself authorized to adopt measures restricting importations without the concurrence of the imperial Parliament, by virtue of the right vested, for temporary circumstances only, in the Bundesrath by article 2 of the tariff laws of July 1, 1869?"

These questions go to the root of the matter. The considerations which they

raise can hardly be ignored in the Bundesrath, though they may not prevail to

prevent the foreshadowed action.

I have, etc.,

A. A. SARGENT.

No. 67.

Mr. Sargent to Mr. Frelinghuysen.

[Extract.]

No. 90.7

LEGATION OF THE UNITED STATES. Berlin, January 1, 1883. (Received January 19, 1883.)

SIR: I have the honor to report that a very strong feeling of opposition has been aroused in Berlin and other German cities as well as in the manufacturing districts generally against the threatened exclusion of American pork products.

Strong protests are being sent in to the Bundesrath and committees of merchants and others have visited the capital to protest against the measure. Editorials in leading papers have fully exposed the falsity of the excuses for exclusion.

If this were strictly a Government of public opinion in the American sense, these general public appeals, backed as they are by solid reasoning upon indisputable facts, would prevail, and the project would be abandoned. But this is far from being the case, and the prospect is stronger than ever that the decree will be issued. I am informed that Mr. Bottischer, the imperial minister of the interior, informed a protesting delegation during the past week that the measure would certainly be adopted.

It is believed in some well-informed quarters that this will be done in a day or two to anticipate the impending discussion in the Reichstag, which was adjourned until its next sitting, about the middle of January, when the opponents of prohibition will undoubtedly make a strong showing against both the policy and the

legality of the measure.

There is considerable feeling on the part of the opponents of prohibition in the Reichstag in view of this threatened snap judgment, and a leading member of that body characterized it to me as "a mean trick.

The pretense of sanitary reasons is becoming the thinnest veil, which has been torn into shreds and which is now apparently only insisted on as an excuse to the United States. The Berliner Tribune, a powerful organ of the Progressists, clearly showed in an article published on Saturday, the 30th ultimo, that it appears from official reports that from 1877 to 1879 there was an average of 33 deaths per year in Germany from trichinosis, and that the average has increased since then, and yet it asserts there has not proved to be one case of death or even disease from

eating American pork.

On the other hand, it is shown that the methods of preparing export meat in the United States are absolute death to trichinge. It says that in every case of death or disease from eating pork it has been from the use of freshly-slaughtered German. Russian, or Hungarian pork. It holds that the American assertion that diseased meat is never exported from our country is maintained, and such meat is too rapid in decomposition to be prepared for export. In a word, as it shows, there is no sanitary objection to American pork. It gives the true explanation of the agitation by saying that it is a thorn in the flesh of German proprietors that a pound of American pork can be sold here for 10 pfennige less than the home product.

If the move of keeping out the half a million hundredweights of American pork imported into Germany yearly could succeed, then their greatest rival is out of the

way, and they will fix prices to suit themselves.

Of course if the public is not to be benefited, the great landholders are.

If the price of pork rises 5 pfennige per pound, a hog of 300 pounds gains 15 marks in value on present prices, and the result is that the large farmers who slaughter yearly from 500 to 1,000 head have a gain of 7,500 to 15,000 marks.

It is no wonder that the hog raiser works in the interest of his pocketbook against the importation of American meat. "But woe to the poor, who pay to him the 15,000 marks! Woe to the hungry, who imagine that it is a duty of the Government not to make the means of living exorbitant!'

The falsity of the pretense of sanuary reasons, and the clearly exhibited, directly under the eyes of the council.

A similar showing is made in yesterday's National Zeitung. Both papers show a show all an improper time for such a measure. There exists no reason for helping German agriculturists, for this year's harvest has been remarkably abundant, while American crops have fallen off, and consequently American exports to Germany, leaving the German farmers a nearly clear field and good prices; and these conditions can not be changed until the harvest of

But Europe needs American agricultural products, for it can not feed itself, but

must pay for these with its labor.

It is also pointed out that Germany is likely to be a great gainer by the proposed

reduction of the American tariff.

The Americans can not be convinced that the meat which they freely eat without injury is unwholesome, or that the measure is not a selfish, injurious blow at The danger of reprisals is pointed out, and it is suggestively stated their interests. by the Tribune that because the French have secently been buying railroad supplies of Austria instead of Germany, probably getting them cheaper, a mere private corporation business, not involving governmental action, the German press has been clamorous for reprisals by overtaxing champagnes.

"If the action of a few Frenchmen can raise such stormy calls for reprisals, what will the Americans think on seeing their pork prohibited while Russian pork

is allowed to come in?

The Tribune sees in this measure new powder for the guns of the social democrats, and deprecates the adoption of a measure where the gains must be so little and the damage is certain to be so great.

I have given the substance of these newspaper articles that you may see that

there is no lack of light shed on the subject.

I have sought by every means to oppose the measure, and have lost no opportunity to expose its true character and to show that the health of American swine is unimpaired and American swine products are entirely wholesome. I do not think these latter propositions are now seriously disputed by people of intelligence. The movement is merely selfish, and in disregard of the interests of the United States. The only argument which would be effective against the measure would be the We could not insist upon any people receiving from us articles fear of reprisals. deleterious to health, but we can as little submit to the exclusion of our products upon false pretenses-pretenses so obviously false as in this instance.

I have, etc.,

No. 68.

Mr. Wamer to Mr. Davis.

No. 31. J UNITED STATES COMMERCIAL AGENCY,
Dusseldorf, January 10, 1883, (Received February 19,)

SIR: Judging from the tone of the large number of petitions that have recently been addressed to the German Federal Council praying for a repeal of the law it has in contemplation of enforcing against the importation of American hog meat into the German Empire, a certain class of manufacturers here have felt no little anxiety that should the German Government persist in adopting any such stringent measures the American Government might retaliate in a manner that would work very detrimental to the importation of a certain kind of their goods into the United States. This hint toward retaliation by many of our American journals has had a decided effect in stirring up the Germans to feel wherein their interest lies, and they have perceived that the American nation is not that kind to accept anything like the sort of reciprocation their Government proposes to offer by excluding from their markets good and wholesome American products.

Considering the great interest that is now being manifested on the part of the German Government in its offering every possible encouragement to the extending of Germany's exporting trade, and as the industrial classes of Germany, chiefly of the iron and wool industries, are wide awake to the increasing demand for their products in the United States and the bright prospects for them in the future should the tariff on foreign goods to the United States be lowered, there is no wonder that these people should be greatly desirous of putting a cessation to any unwise legislation by their Government that would exert the slightest influence

in arresting in any way this thriving business with our country.

A glance at the value of the exports to the United States from Germany for the years 1881-82 will show the increase above referred to. The total value of exports for the year ending 1881 was \$52,989,181, and for 1882 \$56,368,542. The values of woolen goods for the same years were \$4.815,376 and \$5,441,408, respectively, showing a trifle over half a million of dollars in favor of this one class of goods.

The petitions say that to prevent the importation of American hog meat into Germany would be a great deprivation to the indigent laboring classes in the industrial districts, who could not afford to pay anything like the prices that would necessarily be charged for the home production, and would have to live and work on food into which meat would not enter. They (the petitioners) further claim that all the excitement about the American meat containing trichine is to be attributed chiefly to gross exaggerations, without any foundation for proof, and that the German hog meat is just as liable to be diseased as the American.

In the iron mining and smelting district of Aix la Chapelle the petitioners have been very earnest in their appeals. They say the society for furnishing provisions to the workingmen in the ironworks of Altenberg issued to their laborers during the years 1874 to 1882, 428,404 pounds of the American hog meat and its products, and the mining works in the Eifel consumed 42,130 pounds from 1878 to 1882, which was purchased by the workmen in quantities varying from a half to 1 pound at a time. Now, as the supporters of this prohibitory law claim that all the American hog meat that is imported into Germany contains from 1 to 5 per cent of trichine, or is otherwise diseased, it will be seen that of the above amounts, even if reckoned as containing only 1 per cent, there would have been something like 4,704 pounds of trichina meat consumed by these people—enough to have afflicted every one of them with trichinosis. But there was not a single person that was so affected.

There were imported into Prussia, via Antwerp, from the year 1871 to 1881, 138,301,590 pounds of American hog meat and its products. Now, if all this amount had contained even 1 per cent of trichinæ, it can be reasonably supposed that large numbers of Prussia's laboring people would have become afflicted with

trichinosis.

If, after all, the proofs contained in the above petitions, which have been presented to the German Federal Council in the interest of the working population of Germany, should not have the desired effect. I think the American Government would be perfectly justified in inaugurating some such sort of retaliatory measures as suggested by many American newspapers and feared here.

measures as suggested by many American newspapers and feared here.

I have heard it hinted by men whose opinions I have no reason for doubting that the chief object of the prohibition of the importation of American hog meat

into the German markets is to force the population to raise its own pork.

No. 69.

Mr. Frelinghuysen to Mr. Sargent.

No. 74.7

DEPARTMENT OF STATE. Washington, January 12, 1883.

S'R: Acknowledging the receipt of your very interesting and instructive dispatch No. 87, of the 18th ultimo, in which you give an account of the method in which it is proposed to accomplish the exclusion of American pork from Germany, I have to request you to lose no occasion to compass the abandonment of the restrictive and unjust measures now proposed.

I am. etc..

FREDK. T. FRELINGHUYSEN.

No. 70.

Mr. Sargent to Mr. Frelinghuysen.

[Extract.]

No. 96.1

LEGATION OF THE UNITED STATES, Berlin, January 13, 1883. (Received February 19.)

Sir: I have the honor to state that an interesting debate occurred at the session of the Reichstag on the 9th instant, upon the mooted prohibition of the importation of American pigs and pork by decree of the Bundesrath, of which I inclose a full report, without translation. This debate arose upon an interpellation addressed to the chancellor by Herr Richter on behalf of the Progressist party, a copy of which is given in my dispatch No. 87, of December 18, 1882.

Herr Richter opened the debate by saying that the interpellation is in the interest of a large circle of poor people. He showed how injurious the previous prohibition of American sausages and chopped meat had been, and dwelt upon the entire lack of any effort by the chancellor to collect or present any evidence of the unsoundness of American pork, or that any diseases had been engendered by its consumption. He alluded to proofs accessible that cases of trichinosis observed arise from the use of German chopped meat fresh from the butcher. The only source of information of the chancellor was a document written probably as an advertisement, * * * and full of sensational stories. Goulard is himself quoted in the chancellor's memorial as an authority; yet the witness would not be for a total exclusion, but for a prohibition only of such importation as he did not profit by. A collection of the advertisements of the "Golden 110" (a cheap clothing store in Berlin) would be as good evidence in New York of the condition of German trade as this circular is here of any fact in American production. On such flimsy evidence was a measure proposed that would cut deep into German food relations. He denied that American pork furnishes only 3 per cent of the German meat food, and that the deficiency could be easily made up otherwise, for in some parts of Germany the imports represent a very considerable percentage of meat nourishment. Consumers of beef might eat a small percentage of pork, but the poor classes used it wholly, and it was a large percentage of their subsistence. food association of mining workmen near Aix states that 80 kilograms of American meat is used per head every year. Often the piece of American bacon is the only animal food in the dish which the wife brings to her husband for his noon meal at his place of work. Already the high price of Ameri an products causes the Westphalian workman to subsist on the refuse of sausage factories, or go without animal food. The short maize crop had raised the price of American pork, but a good harvest would put this food cheaply in the reach of the German poor.

He also challenged the right of the Bundesrath to make the prohibition under the tariff law of 1869, its only pretense of authority, which gives only the right of temporary suspension in cases of emergency. The whole speech was admirable

and convincing.

Upon its conclusion, and as if to close the discussion, the ministerial director, Marcard, arose and answered the interpellation at once, not responding to any of the propositions of law or fact propounded, but declaring that the Bundesrath was still investigating the matter and had come to no conclusion, and no one had a right to announce its intentions in advance; that its decision would undoubtedly be laid before the Reichstag after it was arrived at.

Deputy Kapp was not disposed to have the interpellation so easily disposed of.

He declared that the proposition of the Bundesrath is based on the allegation that American pork is dangerous, and the proof of this is not furnished. The Bundesrath had not obtained sufficient information. This it could have easily done, for the American Government had published the result of official investigations, especially the collective experience of Chicago and Cincinnati. The business amounted in 1880 to 100,799,414 tons. So great a trade could not take place unless it were conducted on the most conscientious and scientific principles. The continuation of the trade was only guaranteed by furnishing the best article. He regretted that so high an official as State Secretary Burchard had promulgated such a groundless assertion as that cholera had broken out among American pigs, and

had therefore demanded prohibition for sanitary reasons.

Competent judges would have told him that cholera only affects young swine, which are never sent to market, as they pay too little. These also, when dead from disease, decompose so soon that it is not possible to turn them into lard, and the pigs are used for grease and soap. He showed the care used in feeding and handling American pigs. He thought no one would be surprised at the manipulations of Messrs. G——. It would not be surprising if these gentlemen spread a report that they had been spoken of by the Peichstag with high praise. A decisive question with him was, is it desirable to disturb the good relations with the American Government, which is engaged in reducing the tariff? Were this proposal now the law the working classes would be less physically able to serve the Fatherland. He trusted the council of state would abandon the injurious step.

The chancellor, Prince Bismarck, arrived during this speech to announce certain relief proposed by the Emperor for the flooded districts. He made a few incidental remarks upon the interpellation, and called pork "the poor man's trichina." He excused himself on the plea of ill health from speaking at length, and for that reason denied himself the pleasure of refutation. His remarks show that he was not moved by the arguments and facts presented by the opposition, and had no disposition to relax his purpose to secure the exclusion of American

pork products. * * *

When the debate was resumed Dr. Frege spoke in favor of exclusion, saying the speech of Mr. Kapp was entirely in the American to the exclusion of German interests. He believed the great quantity of hogs slaughtered made it impossible to eliminate the diseased. The German poor were not dependent on this food, as this pork is only 3 per cent of their food.

Secretary Burchard defended his statement as to the danger from hog cholera by citations from the New York Staats Zeitung, stating that the business is no

longer a clean one, and alluding generally to scientific opinion.

Bundescommissioner Dr. Kohler asserted that it is established that, for instance, in Dresden, 10 per cent of the American hams had trichinosis. Similar instances occurred in Magdeburg, Brunswick, Gestemünde, etc. The health officials have also announced that 3, 5, and 8 per cent have trichinosis, and that pickling and smoking are not sufficient to destroy this. There are cases of fatal sickness as the result of eating this meat, especially at Bremen, Rostock, etc. He doubted if distress to the poorer classes would arise from exclusion, which would be a grave matter, but the duty of the Government is first to prevent dangerous articles from being imported.

Dr. Barth said he was not convinced by anything that had been said that there was danger from American meats. He carefully refuted the statements of the previous speaker in regard to the prevalence and consequences of trichinosis in American pork, and said the consumers of the food petitioned against prohibition, and the only ones in favor of it are the Bundesrath and some interested hog

breeders

In France and Austria-Hungary the prohibition was imposed before the investigation by the American Government. In the latter country it is about to be taken off. If Germany now imposed it, after the investigation, it would act very offensively to the American Government, and drive them to reprisals, such as there were in 1872, on the part of the Unitel States against France. Deputy Kapp did not, as Deputy Frege charged him, serve American, but German, interests, as he warned them before such reprisals. The danger which the use of brandy brings with it is immeasurably greater than that evoked by the use of American pork. In the Berlin hospital in 1878-79 there were 623 persons suffering from chronic alcohol sm, of which 40 died. Yet nobody would deduce from that the necessity of forbidding he use of alcohol. In the interest of the relations with America, of the laboring classes and commerce, he invoked further serious test by the Bundesrath before excluding American pork.

Deputy Ahlhorn said the working classes are accustomed to this food. He had

collected many reports and made many investigations, but not a single case had been authenticated whose sickness has been the result of using American lard or bacon. If this measure is deemed necessary it should be brought before the Reichstag for legislation. It is a question of the indispensable food for the poor man, who is already injured by the new taxes.

Here the debate on the interpellation closed. The vigor with which it was waged by the opponents of the measure and the fact that very serious interests, commercial and others, are affected by it may have the effect of preventing the

decree, though I am not sanguine of that at this writing.

I have, etc.,

A. A. SARGENT.

No. 71.

Mr. Fox to Mr. Davis.

No. 192.]

UNITED STATES CONSULATE, Brunswick, January 15, 1883. (Received February 9.)

SIR: I have the honor to inclose an article, with translation, which I take from the Magdelurger Zeitung of January 12. It is not in my province to even refer to the political reasons which the Government had for proposing the prohibitory measures against American meats. It must, however, be very satisfactory to our exporters to note that the result of the discussion has been to bring forth indisputable evidence of the fact that American pork is an absolute necessity in Germany, and the statement coming from such a recognized authority as Professor Virchow must carry conviction that the German health is not jeopardized by eating it.

I am, etc.,

WILLIAM C. Fox, United States Consul.

[Inclosure in No. 192.—Extract from the Magdeburger Zeitung of January 12, 1883.—Translation.]

The following letter from Iserlohn, received by a delegate (of the Imperial Parliament) on the day following the debate in regard to the measure prohibiting the importation of meats, has been handed us, and we publish the same as supple-

mentary to the discussion in question:

"In our mutual-benefit store in this place—whose business manager I am—we have for the past ten years kept American bacon in stock, during which time we have sold some 300,000 pounds. In the other local business establishments about 700,000 pounds have been sold, and not one single case of trichinosis has occurred. A prohibitory decree would rob the workman of a good, healthy, and thereby a cheip nourishment. Three years ago the then newly imposed duty had the effect of greatly increasing the price. Before the introduction of the duty I bought American bacon for 34-35 pf. per pound; Westphalian bacon for 45 50 pf. per pound. To-day the same costs: American bacon, 62 pf. per pound; Westphalian bacon, 84 pf. per pound.

We formerly sold 1,500-2,000 pounds, to-day only about 500 pounds monthly. A prohibitory measure would simply so increase the price of Westphalian bacon that it would be an impossibility for the workmen to purchase this healthy article

of food.'

It is of great importance that Professor Virchow, who is recognized as the leading authority on the subject of trichine, is against the prohibition. He says that with absolute certainty he has not been able to find one case of trichinosis caused by American bacon or ham, and that he has only heard of one, viz. in 1874. It appears that the American trichine loses its injurious properties through smoking, salting, pickling, and especially through the long journey. This fact has been certified to by Dr. Schulze, Government medical counselor in Minden, in his report for the year 1880. He says: "The assertion that the trichine loses its infectious properties through transportation, smoking, and salting must certainly be mantained, since, notwithstanding the presence of trichine, no case of illness from eating such meat has been recorded."

No. 72.

Mr. Wamer to Mr. Davis.

UNITED STATES COMMERCIAL AGENCY, No. 32.7 Dusseldorf, January 22, 1883. (Received February 19.)

SIR: The speech delivered in the German Imperial Diet, at Berlin, on the 10th of this month by one of its distinguished members, Herr Eugen Richter, a representative from the district of Hagen, Westfalen, is so strong in its plea against the passage of a decree by the German Government prohibiting the importation of American hog meat and its products into the German Empire that I have thought it important to turnish the Department of State with a translation of the same. It is also based on similar protests against the prohibition of the importa-tion as contained in my dispatch No. 31, transmitted recently to the Department.

WM. D. WAMER.

[Inclosure in No. 32.—Extract from the Kolnischen Zeitung.—Translation.]

MR. RICHTER'S SPEECH.

GENTLEMEN: The interpellation is offered in the interest of the population of extensive districts. As a representative of the people of the district of Hagen,

who are greatly interested in this matter, I support this interpeliation.

On the 21st of November last year proposals were made to the German Federal Council by the imperial chancellor to issue a decree of prohibition against the importation of American pork and its products into the German Empire. This prohibition will cut very deeply into the food supply of the population, inasmuch

as there are many hundred thousands of centners (equivalent to a little more than 100 pounds) that will be affected annually by this prohibition of the importation. It was no later than the year 1880 that the Federal Council issued a decree in reference to the importation of American sausages and hacked meat, in which it was expressly prescribed that the importation of whole hams and sides would be permitted. Now the imperial chancellor bases its proposal in the Federal Council upon the unhealthfulness of the products of American meat, particularly of the hams and bacon. But since the year 1880 nothing has become known to either the consumers in these districts that has given cause for any complaint against the use of the American hog meat on account of its unwholesomeness, or to the officials in those communities, whose official duty it is to examine into everything that is supposed to be injurious to the health of the people where the American products are generally enjoyed.

Some few years ago the scientific commission of the Prussian ministry for sani-

tary affairs also declared itself against such a prohibition.

Since then other petitions to the imperial chancellor have become known, which have been presented at the request of various agricultural societies, aiming at such a prohibition of American products. The memorial of the imperial chancellor to the Federal Council first proves that the injury to health of these articles is by their producing the trichina disease, and, secondly, by the cholera among American hogs.

In reference to the trichina disease the memorial says that the danger from the eating of American hog meat is at least six times greater than from the eating of

the home products.

I will not go into the particulars from which this conclusion has been drawn, since the simple question is this: If of these articles hundreds of thousands of centners are annually consumed, and that thereby the danger is six times greater than with the domestic ones, where are the sick, where are the dead, which in consequence of this quality of the American hog meat we have to complain over?

The memorial of the Federal Council simply says: Undoubtedly diseases have been declared by the control at the places of import, in Germany, in consequence of the eating of American hog meat. The memorial does not make the slightest attempt to specify in numbers a single case.

* * The superior medical advisor (observed integrals)

* * * The superior medical adviser (obermedicinalrat), Eulenburg, who imparts his advice in the ministry of the interior, and who is a distinguished authority on sanitary matters, quotes from a report made by him in 1881 the cases where sickness and death have occurred, and I hereby declare that in all these cases not a single case of sickness or of death can in any way be attributed to the diseased condition either of the American or German hams and bacon. [Hear! Hear!] There are but two cases of sickness given as having been produced by

sausages, and there is no proof indicating that American import products were in any way concerned in them.

The chief causes of the trichina disease have been in consequence of the eating of hacked raw meat, and the three cases there noted are much more important

than all the rest of the diseases together.

On the ground of these experiences the eating of hacked raw hog meat could be forbidden, but not the importation of hams and bacon, which play no part in these

statistics.

Now, I have conversed with my friend Virchow [the great German pathologist] concerning this matter. He is known for his strict demands, which he chiefly places on the police sanitary board, and, again, through the great attention which he has given from the beginning in the investigation of the trichina disease. He is in certain circles of the butchers and slaughterers one of the best interested and most hated of men. My colleague, Virchow, has authorized me to declare that he considers this prohibition of the importation in no manner justified. [Hear! Hear!] He says he has investigated this matter very thoroughly, and has taken the greatest pains, and up to the present has not been able to find out but one case, and that was in the year 1874, that is eight years ago, in which the trichina disease was produced by the eating of American hog meat.

A valuable testimony is furthermore the report of a cooperative association, which states that the association had ordered in one year in its district 212,200 kilograms of American hog meat, and that not one single case of sickness has occurred, although, according to the usual calculation, 4,704 purchasers have

received bacon containing trichinæ.

If on the one side it is acknowledged that there exist in a comparatively large number of the sides of bacon trichine, and upon the other side none, or only single cases of sickness can be proved, then the conclusion is evident that in consequence of the salting, pickling, smoking, the long transportation, and in general the whole manipulation to which this article is subjected previous to its being placed on the market, the trichinæ are either no longer living or no more in condition when they reach the human organism to produce in any way dangerous effects. This conclusion is confirmed by a statement of Dr. Schülz, Government medical adviser at Minden, in whose district a large part of the investigation of American bacon has been made, and who says:

"The assertion that the trichine which appear in great masses in American prepared meats have lost, through the manipulation to which they are subjected, their power of reproduction in the human system must still be maintained; that notwithstanding the enormous consumption of these meats there has not been a single case in which the sharpest kind of a diagnosis has revealed the presence of

trichinæ."

In the face of this statement one may better conclude that the investigation of American hams and bacon is superfluous rather than its being insufficient.

Nevertheless, I will make no objection against the investigation of American bacon and hams through official inspectors. It may be necessary to satisfy the consumers, and to the rejection of bacon that is more or less objectionable.

But when it is said that among the examined bacon are so many trichine, it may rightly be said that this investigation of the American import is much easier than the investigation of hogs butchered in Germany, for these are scattered over the whole country, while the importation comes en masse only from certain places, and where the regulations for the investigation are at hand. * * * Now, the memorial continues:

"Yes, even if the American bacon should be examined at the port of entries, it would still be difficult to destroy the rejected bacon in a manner to prevent con-

tagion. Dogs, rats, and mice could transmit the trichinæ."

Yes, gentlemen; when that is possible here, it is also possible in reference to trichinæ found in the rejected German bacon, and then we come to the point of the Mosaic rule (very true), for dogs, rats, and mice make no distinction in regard to their appetite whether the rejected meat is American or German.

In regard to the second ground for the prohibition of importation, namely, the cholera, the memorial does not say that such a case has occurred in Germany at all; only in England live hogs have been introduced which had been infected with the disease, and the English ordered them to be killed immediately after their arrival.

The English, therefore, are satisfied with this police order. With us, where no such cases have come to light, a general prohibition of import is at once ordered.

Years ago the Secretary of the Department of State had taken occasion to institute a formal enquete in reference to the cholera disease, and appointed the director of the Bureau of Statistics to make the investigation.

The American Government had the results of this investigation published and

forwarded to all their diplomatic agents in foreign countries. It maintains that all the American hogs are of the best and purest breed; that the report spread in Europe concerning the disease of American hogs in consequence of the hog cholera is greatly exaggerated; that the percentage of death among American hogs is not any greater than in Europe; that of the American hogs which die of cholera, in consequence of the strictest investigation and inspection to which they are subjected, no diseased ones can be sent abroad, and that out of the meat of such hogs

no bacon nor lard can be prepared for the trade.

One should think when a government prepares such a memorial as this that proper notice should by all means be given to the investigations of the American Government. But what does the imperial chancellor do? He creates the impression that the memorial of the American Secretary of State had been written in the year 1882, and says nothing else concerning its contents save only that "the results of the enquete form a comparatively valuable material," but calls attention to the fact that these compounded reports are neither complete nor sufficiently reliable for a control. Official proceedings to confirm these declarations by oath

as bound by law have not taken place.

Yes, gentlemen: neither have they taken place with us. One should think that if the imperial chancellor utters such positive judgment in regard to the official enquete of the United States he would have greater reason to produce on his side

truthful and complete statements of impartial men.

As proof of the proportion of the disease of American hogs a paper of an official American stenographer is mentioned. The imperial chancellor puts, then, against the Secretary of State of the United States a stenographer of New York! I do not know what stenography has to do with this question. Has that man been ordered when he hears complaint about hog meat to stenograph the same? He appears as a man who at times is employed by authority for stenography, and who has been ordered to put his name on a pamphlet which is put together out of various articles from a New York commercial paper [hear! hear!]; and in the memorial of the Federal Council, of the size of 19 quarto pages, the extracts of the official stenographer out of the commercial paper occupy fully 4 pages [hear! hear!], such great value has the imperial chancellor placed upon the stenographer.

By closer inspection one finds that all articles of this commercial paper are nothing else but a business advertisement of the firm of Goulard, Rouse &

Bostwick.

In America it is a private business to grant certificates in regard to the meat intended for export. A number of persons in New York make a good business from it. But by degrees Europeans have become wise enough to avoid the mid-dlemen of New York by securing certificates directly from the export places in the West.

The New York men, not being pleased with the loss of their former profit, give their competitors in the West a bad name by saying they do not understand how

how to examine the meat properly.

This puff appears even in the extracts. In the paper of the American stenographer we read: "The Western colleagues seem to show a great indifference in reference to the manifest superiority of the New York inspection." When Austria received meat from New York which had been subjected to the inspect on of the house of Goulard, Rouse & Bostwick no complaint was ever made. The dreadful stories which New York business men have circulated about their competitors in the West form what the imperial chancellor has communicated to the Federal Council on the condition of the American hogs.

The imperial chancellor has, of course, been more careful in his proceedings, but other people have procured the American pamphlet for themselves and found that the extracts in the memorial break off just where the puff advertisement

The memorial says: "There is but one remedy to protect against danger in the importation of hog meat, and that is by careful inspection." The pamphlet then continues: "Such an inspection will only be guaranteed through the firm of Goulard, Rouse & Bostwick." [Great hilarity.]

If an official stenographer should be called upon to make for the American Federal Council compilation of what has been written concerning the golden number 110, the people there would perhaps come to a peculiar conclusion about German solidity and German industry. [Here the speaker read other passages from the American pamphlet to prove that the pamphlet is written as an advertisement.]

The pamphlet is the more remarkable since Goulard himself acts as a principal

witness of the imperial chancellor. His testimony is quoted under the title, "Our reporter's interview with Mr. Goulard of March 14, 1881."

Now, I must say, if an order is to be issued upon the basis of such material, the

same should read that the only products allowed to be introduced into Germany should first be seen and inspected by Mr. Goulard.

That, gentlemen, is the argument for a measure of the most decided effect. It

shows how easy the imperial chancellor is influenced in making such proposals to the Federal Council.

Such a prohibitory decree of an article of export is for our people of the greatest

importance, since annually several hundred thousand centners are imported.

The memorial says it converns only about 3 per cent of our meat consumption. It does not depend upon the general percentage which this importation has for certain parts of Germany and certain classes of the population. For example, it is mentioned in the pet tion of the Consumption Association for Mines and Iron Works that each workman consumes from 140 to 160 pounds of this product yearly, which amounts to a very high percentage of their entire nourishment. The principal thing is that American bacon is much cheaper than the German, and that it is for many people the only meat diet available, which is true in particular of the workingmen of Westfalen. For this reason the board of trade in Westfalen have declared against the prohibition of importation, not, indeed, in consequence of commercial interests, but on account of the difficulty of replacing the product.

Even the chamber of commerce at Dortmund, which upholds the politics of the chancellor, has petitioned against the prohibition. Agricultural societies in Westfalen also oppose the prohibition, simply because the production of hog meat in Westfalen is not sufficient for the supply in these regions, and they therefore find

the import indispensable.

The question now comes up, how happens it that the Federal Council can issue a prohibition of such importance without the cooperation of the Reichstag (imperial Parliament)? As a single argument in its favor one paragraph in the customs regulations can be cited, which speaks only of a temporary prohibition for sanitary reasons, and this can not be taken into consideration with the present case.

The law of the German tariff union mentions, instead of a "temporary prohibition," a "fixed time," for the duration of the prohibition can not be determined in the beginning: but this can only apply to prohibition of import on account of cattle plague and the like. For this reason the Federal Council is not justified in issuing a prohibition against the importation of American hog meat without the cooperation of the Reichstag, and I hope that the Federal Council will duly consider the material reasons which speak against the prohibition, and not conclude to make the question of law objectionable, in which case we must resort to special proposals to protect our interest.

If you dissent from the prohibition you will confer a great deed of charity on

large districts of the population.

No. 73.

Mr. Frelinghuysen to Mr. Sargent.

[Telegram.]

DEPARTMENT OF STATE, February 15, 1883.

The President invites Germany to send a commission of experts to the United States to examine raising and packing of hogs and hog products for food. He asks that final decision in prohibitory measures be suspended until commission can adequately report.

Instruction by mail.

FRELINGHUYSEN.

No. 74.

Mr. Frelinghuysen to Mr. Sargent.

No. 87.1

DEPARTMENT OF STATE, Washington, February 16, 1883.

SIR: I transmit herewith copies of a memorial addressed to the President, under date of the 9th instant, by the Chamber of Commerce of the State of New York, concerning the apprehended prohibition by the German Government of the importation of American bacon, hams, and hog products, into the territory of the Empire.

The considerations set forth by the memorialists are believed to be justly stated. They represent what this Department has so frequently hitherto represented through your legation, that the alleged existence of trichinæ and of diseases among swine in this country to an alarming extent can not, even if established, affect the healthfulness of the exported product, inasmuch as the hog products of the United States are prepared for market in a manner which renders their uncooked consumption all but impossible; that the disease known as trichinosis is rare among American consumers of swine's flesh, and that not more than two or three cases in Germany during the past ten years have occurred where the disease could be ascribed to the consumption of American pork, while most of the reported cases in Germany are directly traceable to the consumption of the raw meat of freshly-killed domestic hogs. And they state further that with respect to alleged exportation of deleterious meat from diseased hogs no substantiation whatever has been shown.

As you are aware, this Government at home and through its legation at Berlin has made every effort from the first to countervail a tendency toward what it believes to be uncalled-for and unjust legislation on the part of Germany in seeking to exclude from one of the largest markets of the world a product of such great importance to the United States. No endeavor has been spared to bring home to the mind of the Imperial Government the conviction, reached by this Government after exhaustive and impartial investigation of the subject, that the premises upon which the intended prohibition rests are unfounded, and that the exported hog products of the United States are in no wise the indiscriminate source of danger to life and health which they are alleged to be. You and your predecessors have earnestly set forth all this to the Imperial Government; you have labored to convey a right understanding of the facts of the matter as they are ascertained to exist here, and you have urged the hardship, almost amounting to an international wrong, which would be inflicted alike upon the producers of the United States and the peasantry of Germany by cutting off from the one class a large and secure market and depriving the other of a cheaper food than their own country can supply. So far as is now known, your efforts in this direction have not been crowned with the hoped-for result.

But one course now remains. It is believed here that if the Imperial Government itself were to do as the Government of the United States has done, and closely examine on the spot all the conditions of the hog raising and packing industry; if it were to follow by practical observation the course of this staple of food from the fields and farms to the packed state, the same conclusions would be inevitably reached as those to which this Government has been drawn. So firmly is this believed that the Government of the United States deems it a common duty to its own citiens and to the consumers in Germany to invite the Imperial Government to examine into the matter for itself, by a commission of experts sent to

this country, before final decision is taken on the proposed measures

This Government stands ready to extend to that of Germany the fullest facilities for the profitable pursuit of such an investigation. Believing that the results which it will promise are of no less moment to the consumers of hog products in the United States than to those in Germany, it is willing to lend the services of one or more impartial experts, scientists of known probity, to cooperate with those whom Germany may send, if such cooperation be deemed desirable and acceptable

by Germany.

You will therefore present to the Imperial Government, in the name of the President, a formal proposal and invitation to send to the United States a commission of experts, who shall, either by themselves or jointly with impartial scientists named by the United States. investigate the whole question of hog raising and the curing and packing of hog products as food in the United States. And you will ask that action in a final sense upon the pending prohibitory measures may be suspended during such reasonable time as may be necessary for such a commission to make a thorough examination of the subject and report thereon. You will add that in making this proposition the Government of the United States is actuated by the fairest and most friendly motives: that its desire, no less than that of Germany can be, is solely that the truth of the matter may be established, and that it deems its reasonable request entitled to friendly consideration on the part of a government bound to the United States by so many ties as is that of Germany. It is thought, above all, necessary that some such course as that now proposed be adopted to free whatever resultant course Germany may adopt from the possible charge of being an unfriendly discrimination.

You will read this dispatch to the minister of foreign affairs and leave with him

a copy. I am, etc.,

Lam, occ.,

S. Doc. 231, pt 4—41

FREDK. T. FRELINGHUYSEN.

[Inclosure in No. 87.]

CHAMBER OF COMMERCE OF THE STATE OF NEW YORK.

Memorial in regard to the prohibition of the importation of American bacon and hams into Germany,

To the PRESIDENT OF THE UNITED STATES:

The Chamber of Commerce of the State of New York respectfully asks leave to represent that the Imperial Government of Germany has openly declared its intention to prohibit the importation of American bacon and hams into their country, on the ground of the alleged unwholesomeness of these products, and that such prohibition threatens to destroy a valuable and growing branch of commerce

between our country and Germany.

Your memorialists are aware that the honorable the Secretary of State has already directed the attention of the United States minister at Berlin to the subject. In view of its grave importance and of the fact that the German Government has only recently made a public statement of its intention and of the reasons that have prompted it, your memorialists nevertheless deem themselves justified in adding their testimony to the information already in possession of the Government and in directing its attention to those points which, in the present position of the matter, appear to be of the greatest importance.

The German Government bases its intention on two facts which it claims to be

The German Government bases its intention on two facts which it claims to be established, namely, first, on the occurrence of the parasite *Trichina* spiralis in the American hog products to greater degree than it is found in the German hog, and, secondly, on the widespread prevalence in our hog-producing districts of the dis-

ease known as hog cholera.

Your memorialists are convinced not only that both these charges are exaggerated, but also that the conclusions drawn from them by the German Government are not justified and can form no reasonable ground for the contemplated prohibition.

1. Trichina.-The German Government claims to have established the occurrence of this dangerous parasite in about 4 per cent of the American bacon and hams imported into Germany, which is stated to be the result of accurate investigations prosecuted during a series of years. No similar official tests having ever been made on this side, your memorialists are unable to disprove or to confirm the alleged fact, and any contradiction from our side, therefore, is not likely to be accepted. But there is one fact which, if properly urged, should convince the German Government of the injustice of basing a decree of prohibition on the alleged occurrence of trichinæ in American bacon and hams, which is this: That these products of our country are prepared for market in a manner which renders their consumption in the raw state all but impossible. This alone accounts for the rare occurrence among American consumers of the disease known as trichinosis, and for the fact that according to the German Government's own statement not more than two or three cases have, within the past ten years, occurred in Germany where the disease could be ascribed to the consumption of American pork, while all widespread and dangerous cases of trichinosis in Ge many have been traced to the consumption of the raw meat of freshly killed domestic hogs. facts, instead of justifying the threatened prohibition, rather go to establish a great advantage, in a sanitary point of view, of the use of the American product over that of the domestic meat.

2. Hog cholera.—The existence of hog cholera also is not denied, though the prevalence of the disease can be proved to have greatly diminished since the bulk of our hogs is no longer raised mainly in connection with our distilleries, but on our Western farms, where they are fed on indian corn. In urging this charge the Government appears to have placed more faith in exaggerated newspiper reports than in the results of the official investigation instituted by our Government, which were embodied in the report made to the State Department by Mr. Scanlan, Chief of the Bureau of Statistics, dated April 26, 1881, which report has been before them. Here again, however, the German Government has drawn conclusions from the facts alleged which are not justified even by these facts, since they have been unable to point out the occurrence of any American meat which might have been called diseased from that cause, much less any injury that might

thereby have been inflicted on the health of the consumers.

In view of the fact that the thorough and systematic exc'usion of diseased hogs from our packing establishments can easily be proved to any fair minded man that will take the trouble of examining into the process connected with the preparation of these products for market, your memorialists respectfully suggest that the German Government should be invited to examine into this matter by a commission

of experts sent to this country before final decision is taken on the proposed measure.

And your memoralists will ever pray, etc.

[SEAL,] NEW YORK, February 9, 1883. GEORGE W. LANE, President. GEORGE WILSON, Secretary.

No. 75.

Mr. Sargent to Mr. Frelinghuysen.

No. 109.] LEGATION OF THE UNITED STATES,
Berlin, February 17, 1883. (Received March 10.)

Sir: I have the honor to report that, at the request of Count Hatzfeldt, imperial secretary of state for foreign affairs, I had an interview with him to-day, where a number of questions interesting to the United States, which I had previously called to his attention, were provisionally discussed, of which I will make full report as soon as conclusions are reached. When he had concluded with his topics I read to him your telegram of the 15th instant, which states that the President invites Germany to send a commission of experts to the United States to examine the raising and packing of hogs and hog products for food, and that he asks that final decision on prohibitory measures may be suspended until the commission can

adequately report.

I told him that the proposed prohibition had excited a good deal of attention and some feeling in America, explained the importance of the proposition to the United States, informed him that there was a general belief there, founded on experience and careful examination, that the objection to American pork as a sound article of diet is unfounded, and that the exclusion would be improvident. I called his attention to the conclusive and candid report of the commission appointed by the State Department to examine and report on the mode of raising hogs and preparing their products for market, made after extensive and exhaustive investigation. I told him I would send to him a fuller statement of the matter as soon as I received the instruction now on the way to me by mail, and would also at the same time send a copy of the public document to which I referred; and I trusted that while the Imperial Government were considering this proposition of the President nothing further would be done and the proposition would be accepted. He said nothing decisive upon the subject, as, of course, he could not of his own responsibility, but expressed a desire to have the documents and information in question.

I have, etc.,

A. A. SARGENT.

No. 76.

Mr. Sargent to Mr. Frelinghuysen.

[Extract.]

No. 111.] LEGATION OF THE UNITED STATES,
Berlin, February 24, 1883. (Received March 13.)

SIR: Referring to my No. 109, of February 17, acknowledging my receipt of your telegraphic instruction dated the 15th, and stating my reading the same to Count Hatzfeldt, imperial secretary for foreign affairs, and stating the importance of the subject from the American standpoint, etc., I have now to report that the Bundesrath, on the 18th, unanimously approved the decree of prohibition of American pork products, taking no notice of the proposal of the President, if the same was brought to their notice by the imperial foreign office.

I have no official statement of the decree as yet. The Berliner Tageblatt of last

evening contains the following:

"As we announced, the Bundesrath has approved the ordinance on the prohibition of the importation of American pork, with some reservations which seem to contradict the reasons given for prohibition, viz, that the meats are unhealthy. For instance, the commerce in such meat is not only permitted to German ships with other countries, but it is also allowed to the Hanse Towns to supply their ships with such meats.

"The permission, according to rumor, has been given on the ground of the exist-

ing laws

"The power of the Bundesrath to issue such ordinances rests upon the Zollverein laws, and especially upon article 2 of them. The Hanse Towns, which stand outside of such Zollverein, do not thus come under the provision in question, and to

obtain their adhesion the reservations were added."

Immediately upon the action of the Bundesrath becoming known to me, I prepared and sent to Count Hatzfeldt a note, a copy of which is inclosed, in which I called his attention to the honorable Secretary's telegram which I had submitted to him on the 17th instant, stating that I had promptly conveyed the proposal of the President through the only possible official channel to the Imperial Government, and that it had been also widely published in the German newspapers, where it would unofficially reach the Bundesrath. I requested that an official copy of the late ordinance of the Bundesrath might be furnished to me, so that I might notify my Government of the exact terms of the response or constructive refusal made to this request of the President upon a matter of very much importance to the United States and deeply affecting the trade relations of the two countries.

I, however, expressed my impression that the ordinance could only go into effect by the express approval of the imperial executive, and therefore asked leave to again call the attention of the imperial secretary to the proposal of the President, and to repeat what I had said at our interview of the 17th instant, that the United States view with concern this ordinance designed to destroy an important part of its export trade with Germany; that the United States had had the whole question of the soundness of American pork, the modes of rearing hogs and preparing the products for market, carefully and impartially examined, and are convinced by the report made to it, a copy of which I inclosed, that the attacks made upon the great article of product are unjust and prejudiced, and not in any degree warranted by the facts in the case. This being so, I stated that the President confidently relies upon the result that would follow the examination by a German commission, and invites the imperial Government to send such an one, and await its report before striking down an industry that not merely furnishes all the animal food to large classes in Germany (a consideration more immediately addressing itself to the Imperial Government), but causes great loss to the people of the United States, whose capital is involved and labor employed in prepa ing pork products for market.

I suggested, further, that there is no emergency in this matter that can not await ordinary modes of dealing with questions of such moment, there being no apparent reason why this ordinance should be enforced this month, or year, more than last or the next, as there is no epidemic caused by German consumption of American pork, not even a well authenticated instance of casual sickness; that high German scientific authority stated that the very rare cases of trichinosis found in Germany for years past have arisen from eating raw German or Hungarian pork, and that no case whatever is traceable to American pork, which is so cured as to be

harmless

I suggested that where the evidences of harm done are so shadowy, and are opposed by carefully grounded statements, and the interests involved are so great, the request of the President for investigation might well commend itself to the Imperial Government as reasonable and statesmanlike, and consonant with the kindly relations existing between the two countries, a sense of which on the part of His Imperial and Royal Majesty had been recently conveyed to me by the chancellor on the occasion of the generous relief extended by the citizens of the United States to the sufferers of the Rhine Valley. Believing the Imperial Government to be animated by the sentiments expressed in the chancellor's communications, I believe it would not desire that the American Government or people should rest under a sense of injustice from the execution of this measure, yet such a consequence seemed inevitable where all modes of nonest investigation had been exhausted by the American Government, with the result of apparently proving this product sound, and where daily experience shows none of the assumed inconvenience to either German or American health, and where the Imperial Government is formally and courteously asked to look into the whole subject for itself before acting upon possibly interested advice, or in the absence of anything worthy the name of evidence. I therefore asked for a response to this proposal of the President, that investigation be had, and that meanwhile this serious blow to American interests be suspended.

I deemed it best to add that as the United States are a large and growing consumer of German manufactures, and the food they export to Germany is their principal article of exchange, the laws of trade must dictate their obtaining the goods they import elsewhere if the equivalent which they furnish is refused.

This would probably result even if the Congress did not meet the issue by legislation, under the belief that another motive than the unsoundness of American pork products caused this exclusion; though such a belief could not obtain, if fair investigation on the spot by German experts showed dangerous and peculiar unsoundness to exist. I expressed a hope that this many-sided question may be tested as its importance deserves.

As this question is a burning one, I have acted in advance of the receipt of your detailed instructions by mail, and keep you advised of progress, without waiting

for the imperial secretary's reply to this note.

I have, etc.,

A. A. SARGENT.

[Inclosure in No. 111.]

Mr. Sargent to Count Hatzfeldt.

LEGATION OF THE UNITED STATES, Berlin, February 23, 1883.

The undersigned, envoy extraordinary and minister plenipotentiary of the United States of America, had the honor, in his interview on the 17th instant with his excellency Count Hatzfeldt, imperial secretary of state for foreign affairs, to submit a telegram from the honorable Secretary of State, Mr. Frelinghuysen, containing a request of the President of the United States, which telegraph was in the following words:

"The President invites Germany to send a commission of experts to the United States to examine the raising and packing of hogs and pork products for food. He asks that the final decision on prohibitory measures be suspended until such

commission adequately report."

This proposition of the President of the United States was promptly conveyed to the Imperial Government through the only possible official channel, and was also widely published in the German newspapers, where it would unofficially reach the Bundesrath. The undersigned respectfully requests that he may be furnished with an official copy of the late ordinance of the Bundesrath in the matter, so that he may notify his Government of the exact terms of the response, or constructive refusal made to this request of the President upon a matter of very much importance to the United States, and deeply affecting the trade relations of

the two countries.

As the undersigned is under the impression that this ordinance can only go into force by the express approval of the imperial executive, he most respectfully asks leave to again call the attention of his excellency, the imperial secretary, to the proposal of the President contained in the telegram above cited, and to repeat what he said in his interview with his excellency on the 17th instant, that the United States view with concern this ordinance, designed to destroy an important part of their export trade to Germany: that the United States have had the whole question of the soundness of American pork, the modes of rearing hogs and preparing the products for market, carefully and impartially examined, and are convinced by the report made to them, a copy of which is herewith inclosed, that the attacks upon this great article of product are unjust and prejudiced, and not in any degree warranted by the real facts in the case. This being so, the President confidently relies upon the result that would follow the examination by a German commission of the whole matter, and invites the Imperial Government to constitute such an one, and await its report, before striking down an industry that not merely furnishes all the animal food to large classes in Germany (a consideration more immediately addressing itself to the Imperial Government), but causing great loss to the people of the United States, whose capital is involved and labor employed in preparing pork products for market.

His excellency's courtesy will allow the undersigned to suggest that there is no emergency in this matter that can not await ordinary modes or dealing with questions of such moment. There is no apparent reason why this ordinance should be enforced this month, or year, more than last, or the next. There is no epidemic caused by German consumption of American pork; not even well-authenticated instances of casual sickness. It has been stated by very high German scientific authority that the very rare cases of trichinosis found in Germany for years past have arisen from eating raw German or Hungarian pork, and that no case whatever is traceable to American pork, the mode of curing which makes it harmless.

Where the evidences of harm done are so shadowy, and are opposed by carefully

grounded statements, and the interests involved are so great, the request of the President for investigation may commend itself to the Imperial Government as reasonable and statesmanlike, and consonant with the kindly relations existing between the two countries, a sense of which on the part of His Imperial and Royal Majesty has been recently conveyed to the undersigned by his serene highness, the imperial chancellor, on the occasion of the generous relief extended by the citizens

of the United States to the sufferers of the Rhine Valley.

The undersigned is fully aware that the Imperial Government, animated by the sentiment expressed in the esteemed communications of his serene highness, would not desire that the American Government or people should rest under a sense of injustice from the execution of this measure. Yet such a consequence seems inevitable where all modes of honest investigation have been exhausted by the American Government with the result of apparently proving this product sound; where daily experience shows none of the assumed inconvenience to either German or American health, and where the Imperial Government is formally and courteously asked to look into the whole subject for itself before acting upon possibly interested advice, or in the absence of anything worthy the name of evidence.

The undersigned therefore again calls attention to this express request of the President of the United States, and respectfully asks, for the sense of the Imperial Government thereupon, that investigation be had, and that meanwhile this serious blow to American interests be suspended. Inasmuch as the United States are a large and growing consumer of German manufactures, and the food they export to Germany is a principal article of exchange, the laws of trade must dictate their obtaining the goods they import elsewhere, if the equivalent which they furnish is refused. This would probably result even if the Congress did not meet the i sue by legislation under the belief that another motive than the unsoundness of American pork products caused this exclusion. Such a belief, of course, could not obtain if fair investigation on the spot by German experts showed dangerous unsoundness to exist.

Expressing the hope that this many sided question may be tested adequately, as

its importance deserves, the undersigned avails, etc.,

A. A. SARGENT.

No. 77.

Mr. Frelinghuysen to Mr. Sargent,

No. 88.7

DEPARTMENT OF STATE, Washington, February 21, 1883.

SIR: Your dispatch No. 96, of the 13th ultimo, giving a summary of a recent debate in the Reichstag concerning the proposed exclusion of American pork from the German market, has been read with interest. This Government can not but welcome as a hopeful sign any disposition to bring the subject to a parliamentary discussion on its true merits. My instruction to you of the 16th instant. No. 87, proposing a German investigation in the United States, will have shown the confidence that this Government feels in the soundness of the views it has heretofore expressed, and its belief that the interests of all demand a full and conclusive examination of the whole matter of pork exportation.

I am, etc.,

FREDK, T. FRELINGHUYSEN.

No. 78.

Mr. Vogeler to Mr. Davis.

No. 77.] UNITED STATES CONSULATE-GENERAL, Frankfort-on-the-Main, March 3, 1883. (Received March 21.)

Sir: I have the honor to inclose herein my report on "The resolution of the German Bundesrath prohibiting the importation of American hog meat."

I am, etc.,

FERDINAND VOGELER, Consul-General. [Inclosure in No. 77.-Extract.]

THE RESOLUTION OF THE GERMAN BUNDESRATH PROHIBITING THE IMPORTATION OF AMERICAN HOG MEAT.

In my report on the tariff laws and customs regulations of Germany, dated January 55, 1882, I showed that the principal reason for the many devices resorted to by German customs officials to impose a higher rate of duty on certain acticles than the law contemplated was not a direct purpose to discriminate against goods of American production or manufacture, because these devices affected importation from other countries as well as those from the United States, but that they proceeded rather from a desire to propitiate and minister to that protective spirit which, since the year 1879, was known to have come into favor with the leading spirits of the German Government.

When I now refer to the resolution adopted by the German Bundesrath on the 21st day of February, 1883, prohibiting the importation of American hog meat, a subject which I am aware has engaged the attention of the Department for several weeks, I do so merely to call the attention of the Department to a peculiar circumstance in the adoption of that resolution, tending to show that it was born of the same spirit, which for a long time confidently asserted that, in the eye of the German tariff laws and regulations, canned meats or peaches were "fine iron-

ware."

I shall endeavor to trace the resolution referred to to its real origin. It is clearly the policy of the German Government, in these times of turbulent socialistic agitations, to form around itself a phalanx of loyal and conservative elements, by means of legislation, which will convince them that the Government is appreciative of their wants and anxious to foster and enhance their material welfare. As in all other European countries except Great Britain, the rural population of Germany is not only the most numerous, but also the most conservative element and least inclined to adopt new political or social theories.

A paternal care exercised over the rural population, a proper ministration to their wants, therefore, must greatly strengthen the Government. Thus gradually a reliable majority in the Reichstag, the popular and most essential legislative factor of the Empire, may be created, which will support and carry out reformatory plans and assist in keeping in check the turbulent socialistic elements of the

great cities.

Now, the competition of the American hog raiser and pork packer was severely felt by the rural producer of Germany. The imposition of a duty of 12 marks per 100 kilograms did not deter the American shipper. According to the present composition and temper of the Reichstag, however, it was impossible to obtain a majority for a law either prohibiting, on some specious ground, the importation of American pork or so to increase the duty thereon as to make American competition impossible. But an expedient was soon found. The Bundesrath is not only one of the legislative factors of the German Imperial Government (and in that respect it somewhat resembles the Senate of the United States, while the Reichstag corresponds to the House of Representatives), but it also exercises executive authority and functions; in other words, its powers are not only legislative, but also supervisory, regulative, and executive. It is charged with the adoption and passage of suitable rules and regulations to carry into effect the laws of the Empire.

The Bundesrath consists of 58 members. These, in one view, represent the several sovereign States of the German Empire. They are not elected like the members of the Reichstag, but appointed by the several German governments. Of the 58 members Prussia appoints 17, Bavaria 6, Saxony and Wurtemberg 4 each, Baden and Hesse 3 each, Mecklenberg-Schwerin and Brunswick 2 each, and all other principalities, including the three Hanse Towns, Hamburg, Bremen, and Lubeck, 1 each. This body, so constituted and empowered, was requested by the imperial chancellor to enjoin, by virtue of its regulative power, the importation of American pork on the ground that it was affected by trichine, and therefore unwhole-

some.

Now, although this sweeping allegation was not supported by sufficient proof, and although numerous petitions and remonstrances against such a regulation were sent to the Government and to the Bundesrath from the manufacturing districts of Germany, where American pork and hams had become indispensable articles of nourishment, yet the Bundesrath unanimously passed the resolution referred to, the prohibition decreed to go into effect thirty days after its promulgation by the imperial chancellor.

It is likely that the point which readily suggests itself, viz, whether one branch of the Government can, upon an unproven assumption of facts, by a so-called

"regulation," abrogate and annul a law duly enacted and in full force and effect, will be raised in the Reichstag when that body convenes in May next; but I doubt that the discussion of the question will have any practical result whatever.

The public journals now announce that the decree of the Bundesrath will be

published in a few days, and that the regulation, therefore, will go into effect early

in April, 1883.

The unanimity of the decision reached by the Bundesrath, however, has surprised even the friends of the measure. It was confidently believed that not only the Hanse Towns, but also some other members of that body, would vote against a proposition of such doubtful justice and utility. Subsequent developments, however, have shown how that unanimity was reached, and at the same time how little the Bundesrath itself believed in the correctness of the allegation that the American pork was unwholesome.

To make this statement of mine clear it is only necessary to cite an article which appeared in the Cologne Gazette, a leading and influential journal of Germany, in

its issue of the 26th of February, 1883, which article I attach to this report, and of which the following is a correct translation, viz:

"On February 21 the Bundesrath decreed that thirty days after the promulgation of a regulation to that effect by the imperial chancellor the importation of American hogs and hog meat shall be prohibited, this resolution having been adopted unanimously. It might create astonishment that the Hanse Towns have also given in their consent. But it must be observed that they have only reluctantly said, 'Si omnes consentiunt, ego non dissentto.' They have declared that they have been unable to convince themselves of the utility or necessity of this measure, and that they have given in their consent only because sanitary considerations alone were urged as a reason for the measure, and they were unwilling to take the responsibility of being alone indifferent to the health of the German people. as wise merchants they have at least averted the worst consequence of their carrying trade, inasmuch as they have obtained permission to import American hog meat for reexportation and to provision their own ships with American hog meat. That seamen may eat trichinous meat with impunity we had not hitherto heard of. Or do the Hanse Town men not believe in the danger of trichinæ and the seriousness of the arguments in favor of the measure?

"As to the sanitary consideration, the prohibition of American hog meat will undoubtedly prove very healthy for the purses of our estate owners, but very

unhealthy for the poorer classes of our population.

"We will not to-day enter further into the subject, which to us is the most mel-

ancholy piece of our economical policy.'

Comment on this article is unnecessary. It fitly characterizes the spirit of the measure referred to. I will only add in conclusion that the views expressed and implied in the article are shared by almost all those who have given the subject any attention.

FERDINAND VOGELER. Consul-General.

No. 79.

Mr. Sargent to Mr. Frelinghuysen.

[Telegram.]

LEGATION OF THE UNITED STATES, Berlin, March 8, 1883.

Mr. Sargent telegraphs that he immediately presented the request of the President, and that while Bundesrath's action was adverse, he again protested strongly, asked an answer to the President's proposal, and suspension of action.

No. 80.

Mr. Sargent to Mr. Frelinghuysen.

[Telegram.]

LEGATION OF THE UNITED STATES, Berlin, March 14, 1883.

Government declines to investigate or suspend order.

SARGENT.

No. 81.

Mr. Frelinghuysen to Mr. Sargent.

No. 98.1

DEPARTMENT OF STATE, Washington, March 14, 1883.

Sir: I inclose herewith for your information a copy of an interesting letter from Messrs. Armour & Co., of Chicago, concerning the exclusion of American pork from Germany.

I am, etc.,

FREDK. T. FRELINGHUYSEN.

[Inclosure in No. 98.]

Armour & Co. to Mr. Logan.

CHICAGO, March 1, 1883. (Received March 8.)

DEAR SIR: The recent action of the German Government, in prohibiting the importation of American hog products, it seems to us, demands some effort toward checking a policy that must unquestionably result (if persisted in) in disaster to the farming interests of Illinois and the Northwest. We know that your familiarthe farming interests of Illinois and the Northwest. We know that your familiarity with this subject renders it unnecessary for us to enlarge upon it for your information, but recognizing and acknowledging, with thanks, your former interest in this question, we now beg to ask your cooperation in the adoption of some measure calculated to bring about the speedy repeal of existing prohibitory decrees, or at least to render their adoption in other quarters less attractive than at present.

Knowing, as well as ourselves, that the sanitary pretexts of both the French and German Governments need no arguments, we feel that you will heartily support any wise retaliatory measure brought forward to counteract their disastrous legislation. And while aware that you are fully informed as to the magnitude of the interests thus attacked, we may state that from our intimate relations with this most important Illinois industry the time can not be far distant when our own and adjoining States will suffer to the extent of millions of dollars.

We refrain from inflicting upon you at length the reasons for this conviction, which to us present the feature of absolute certainty, because we feel that your own information is ample, and that you must, having already broadly considered

the matter, fully agree with us.

We therefore confidently request that you will make some effort, retaliatory in its character, the details of which you can much better suggest than ourselves, and will conclude by saying that while our own interests are necessarily involved, they are, as you know, secondary to those enormous interests which involve the welfare of the State to as great a degree, perhaps, as those of any other important industry.

The time, we suppose, being short for action during the present Congress, we, of course, leave the matter in your hands, hoping you may be able to do something either before or after the close of the present Congress, but as promptly as

your numerous duties (and the importance of the subject) will permit.

Yours, truly,

ARMOUR & Co.

No. 82.

Mr. Frelinghuysen to Mr. Sargent.

No. 99.7

DEPARTMENT OF STATE, Washington, March 14, 1883.

SIR: Your No. 111 of the 24th ultimo, concerning the decree prohibiting the importation into Germany of the hog products of the United States, has been

The note addressed by you to Count Hatzfeldt on the 23d ultimo, in relation to the President's invitation to the Imperial Government to send a commission of experts to the United States to examine into the operations of hog raising and packing here, based as it was on the brief telegraphic instructions sent to you. has, in the main, anticipated the instruction, No. 87, dated the 16th ultimo, and presented with considerable fidelity the considerations contained therein in support of the President's invitation.

It must, however, be observed that you have to some extent gone beyond the intention of the President in the concluding part of your note to Count Von Hatz-

You therein say:

"Inasmuch as the United States are a large and growing consumer of German manufactures, and the food it exports to Germany is a principal article of exchange, the laws of trade must dictate its obtaining the goods it imports elsewhere if the equivalent it furnishes is refused. This would probably result, even if the Congress did not meet the issue by legislation, under the belief that another motive than the unsoundness of American pork products caused this exclusion. Such a belief, of course, could not obtain if fair investigation on the spot by German experts showed dangerous unsoundness to exist.'

So far as your intimation touches the operation of the laws of international trade, it is unexceptionable. Those laws control themselves, and commerce must perforce work its own channels in the most natural directions; but when you go further and indicate the possibility that this Government may resort to retaliation if its views be not assented to by Germany, you introduce an element which

it was not intended to present.

The act on taken by this Government was unusual and necessarily presupposed that the direct proposal of the President to the Imperial Government would be entertained in the same frank spirit in which it was proffered, and, no doubt, it will yet receive a courteous reply, whether favorable or unfavorable.

It may be that His Majesty the Emileror may decline to send hither such a com-

mission as has been proposed, through unwillingness, possibly, that the results of its labors should have a binding effect upon his Government, such as might naturally be supposed to follow from a commission created by imperial order. German Government has an undoubted right to withhold its concurrence in the sugge-tion of the President, and the exercise of this right would give no occasion for offense. It is the duty of governments to be jealous of the health and careful of the interests of their citizens or subjects, and the President does not seek to support an appeal to the German sense of equity by any menace.

In this view of the matter, therefore, any intimation such as is contained in your note to Count von Hatzfeldt, that retaliation might ensue in the event of a refusal,

was out of place.

If the Imperial Government declines to send the suggested commission to examine into the operations of hog raising and packing in the United States, it is more than probable that the President will cause such an examination to be made in so thorough and impartial a manner as to satisfy that Government that the health of the German people will not be imperiled, but rather promoted, by the importation of American pork. But it is, of course, impossible for the executive branch of this Government to anticipate what may be the action of the legislature of the United States if the prohibitory measures contemplated by Germany should be

Lest the statements in your note of February 23 might prove liable to misinterpretation, you are authorized to make the contents of this instruction known to Count von Hatzfeldt by reading it to his excellency, and, should he desire it, by leaving with him a copy. In doing so you should state to him that this instruction is explanatory merely, and does not put on record a censure of your course.

I am, etc.,

FREDK. T. FRELINGHUYSEN.

No. 83.

Mr. Sargent to Mr. Frelinghuysen.

[Extract.]

No. 121.]

LEGATION OF THE UNITED STATES, Berlin, March 15, 1883. (Received March 27.)

SIR: Your instruction No. 87 of 16th February was received March 10. On the 13th, the first subsequent opportunity, I called on Count Hatzfeldt, and, in obedience thereto, read it to him and left with him a copy. He said he had my last note on the subject, and that it had been submitted to the chancellor, who had written to the German minister at Washington on the matter. I asked him if I might understand that this communication to Washington was evidence of a purpose to convey through some other channel the answer to the President's proposal which I had submitted, to which he replied "Not at all." I then said: If the matter, then, was not foreclosed I would remind him that the ordinance was

impending, and the United States Government had submitted a definite proposition for a commission, and that unless the Imperial Government is so clear in its conclusions that evidence could not change it, or unless it had other motives than the unsoundness of American pork for its prohibition, so that evidence was unimportant, it would appear that this proposition of the American Government should

be accepted.

Count Hatzfeldt replied that Herr Bojanowski, president of department No. 2 of foreign affairs, was fully in possession of the views of the chancellor on the matter, and requested me to have an interview with him. As the latter is an officer intrusted with all commercial duties and relations, and equal in station with the secretary, I consented to call upon him to learn the decision of Prince Bismarck, in case an appointment were made for me. Count Hatzfeldt stating that the copy of the instruction which I presented should be laid before the chancellor. I had no doubt, however, that the answer it would get from Herr Bojanowski would be unfavorable. * * *

To-day, at 2 o'clock, I called at the ministerium and had an interview with the president of department No. 2. He stated that instructions had been sent to Mr. Von Eisendecher about the matter. I asked if a commission would be appointed to investigate the alleged unsoundness of American pork products, and he said, "No." I asked him if the ordinance would be suspended until Mr. Von Eisendecher's response could be had, or until the latter had consulted with the honorable secretary of state, and he said, "It will not." I said, "Very well; that answers my questions: and I will communicate the facts to my Government for such further action as it deems proper." * * I deemed it indiscreet to ask the nature of Mr. Von Eisendecher's instructions, and if they contemplated investigation. I presume he will lay before you whatever his Government would wish known of its purposes. * *

I have, etc.,

A. A. SARGENT.

No. 84.

Mr. Sargent to Mr. Frelinghuysen.

[Extract.]

No. 122.]

LEGATION OF THE UNITED STATES, Berlin, March 19, 1883. (Received April 4.)

Str: I have the honor to inclose a copy of the decree of the Bundesrath excluding American pork products, as approved by the Emperor March 6, with translation. It is a pure and simple exclusion, containing no reservation on its face,

whatever it may be in practice.

I also inclose an article and translation from the Norddeutsche Allgemeine Zeitung of the 14th March, showing the regulations which the chancellor proposes by which to enforce this ordinance. These are stringent and severe, and calculated to totally interrupt all trade in the prohibited products, whether the same come direct from America or through other countries. These regulations are the logical result of the ordinance, and are subject to no criticism that does not apply to the ordinance itself; though the chancellor is represented as justifying them on the ground that the American papers have said the ordinance would be evaded by indirect shipments. If the American papers have so said, which I have not observed, the enforcement of these regulations will defeat any such anticipations. It will be seen that considerable ingenuity is used to detect and exclude the obnoxious food.

This is sufficiently remarkable, considering the welcome the same regulations extend to Austro-Hungarian and Russian pork, which is said by scientific German authority to be the cause of all the (few) cases of trichinosis that have occurred in Germany for several years, from the habit of the people to eat it raw;

the Russian pork, I am told by Germans, being the worst in the world.

I am able to say that there is as little apparent public opinion back of this prohibition as there is justification for it in the character of the excluded articles.

* * * Physicians, who ask, for obvious reasons, that their names be not mentioned, have assured me personally and by letter that there is no disease in Germany from American pork. The only case now known to exist among forty million people is said to be at Bremen, and that from eating raw German ham, According to these respectable authorities, if a child were to be poisoned at Philadelphia from sucking the paint from a German doll, legislation to prohibit all

German toys would be a parallel measure, provided this case of trichinosis at

Bremen could be really proved to arise from eating American pork.

Deputations of merchants have called on me, anxious to know if the measure was inevitable. One banker spoke of it as gross ingratitude to America, whose contributions for the Rhine sufferers, about 1,000,000 marks are, he said, insignificant beside the amounts annually sent out from America to dependent relatives and others, for which no return is ever expected. He spoke of this as in his own knowledge, by means of his business. I presume the international money-order office would tell the same story. He also said the United States are the most important market of Germany, and the latter had it in its own hands whether they should be ignominiously hustled out of the German market. As illustrating the dependence of Germany upon American custom, I cite the following from the Berliner Tageblatt, the correctness of which I have not the means of verifying:

"The prohibition of American pork products begins already to show a reaction. In Germany, for instance, there exists five large manufactories of dextrine, whose products are principally sent to America, and which are worked so advantageously that a larger number of similar establishments are to be erected. The duty on dextrine amounted hitherto to 4 marks. After the 1st July, however, it will be raised to 16 marks, thus rendering the exportation of the German article to Amer-

ica almost impossible and checking home labor very sensibly."

I have, etc.,

A. A. SARGENT.

[Inclosure 1 in No. 122.—Translation.]

ORDINANCE CONCERNING THE PROHIBITION OF THE IMPORTATION OF PIGS, PORK, AND SAUSAGES OF AMERICAN ORIGIN OF MARCH 6, 1883.

We, William, by the grace of God, Emperor of Germany, King of Prussia, etc., decree in the name of the Empire, and with the consent of the Bundesrath, as follows:

SECTION 1. The importation of pigs, pork, including bacon, and all kinds of sausages of American origin, is prohibited until further notice.

Sec. 2. The imperial chancellor is empowered, by applying the necessary pre-

cautionary measures, to permit exceptions to be made in this prohibition.

SEC. 3. The ordinance of the 25th June, 1880, concerning the exclusion of

American pork and sausages (Im. Law Gazette, p. 151) is abolished. SEC. 4. The present ordinance goes into force after the expiration of the 30th day after its publication.

Given under our hand and the imperial seal.

Berlin, 6th March, 1883.

WILHELM. VON BISMARCK.

[Inclosure 2 in No. 122.—Article from the Norddeutsche Allgemeine Zeitung of March 14, 1883.— Translation.]

On the order of to-day's appointed session of the Bundesrath stands the proposal concerning the prohibition of the importation of pigs, pork, and sausages of

American origin.

After the Bundesrath has voted the decree for the prohibition of the import of pigs, pork, and sausages from America, it will be necessary in the interest of an efficient enforcement of the prohibition to extend the same not only to such products which are shipped directly to Germany from America, but to all products included in the prohibition of American origin. In a communication to the Bundesrath the chancellor makes no suggestions about carrying out the decree, and orders, for the prevention of its evasion, that the importation of such articles from other countries than America shall only be admissible in future when it is proved by official certificate that the articles are above suspicion, i. e. not of American origin. If the prohibition is really to impart the sanitary protection aimed at by it, then, says the chancellor's communication further, only the certificates of such officials must be recognized as are, on the one hand, in a position to testify to the truthfulness of their statements by their personal knowledge in the premises, and, on the other hand, too, are responsible to the Empire or the Government of their country for the conscientiou-ness of their statements.

The certificates of German consuls will, accordingly, be of primary consideration, but as the interests of traffic would seem to forbid our confining ourselves to their certificates exclusively, it might be practicable to admit the certificates attested to by the proper police authorities at the place of origin as sufficient. But inasmuch as the German frontier officials may not always be able to tell whether the persons certifying are actually the proper police authorities, this fact would have to be attested to by the German consul of the district in question. Exceptions to this measure would only be admissible in the case of certificates of origin which come from Austria-Hungary, if issued and attested to according to the provision of the treaty with that Empire of 25th February, 1880, as in all other traffic between these frontier districts.

If the attest is not written in the German language, a certified German transla-

tion would have to be added by the importer on demand.

Besides this, the certificate of origin would have to be issued at least thirty days before the arrival of the goods at the German frontier and to be kept by the German frontier officials to prevent a second use thereof. As specially regards the import of living pigs, the foreign police authorities would have to certify that the animals belonging to the shipper, who is to be especially named, are described singly and according to kind. size, age sex, color, and other outward marks, are born and raised in Austria-Hungary (Belgium. etc.), and that they have been kept at and within the district of the authorities certifying for the last thirty days. In the case of sucking pigs (pigs of less than 10 kilos weight), as their importation from America might scarcely be attempted, a certificate describing the animals collectively and as to kind, as having been born in Austria-Hungary (Belgium.

etc.), might suffice.

The matter is, however, much more difficult with regard to preparations of pork and sausages. A certificate issued by the authorities at the place of origin of the animals would be of little value, as it could not be proved by the articles in question that they really are made from the animal mentioned in the certificate of origin, and therefore a certificate from the police authorities at the place where they were made (except America) that the ware specially designated and described, if chopped, by signature, and packing, if in larger pieces, by a stamp which is to be placed upon them by the authorities at the place of origin, to the effect that the wares emanate from the butcher, etc., residing at and in the district of the certifying office, and are made from animals of English (Belgium, etc.) origin, would be necessary. Besides this, it might be practicable to demand a certificate to the effect that the manufacturer in question is not engaged in manufacturing wares from pigs, pork, or bacon of American origin. In justification of these suggest ons, the communication refers to utterances in the American press that an evasion of this prohibition by repacking the American article in European (not German) ports is contemplated.

Finally, the chancellor requests a decision of the Bundesrath in the matter, with

Finally, the chancellor requests a decision of the Bundesrath in the matter, with the remark that the officials intrusted with the execution of the decree at the frontier will be furnished with instructions before the time that the decree goes

into force, thirty days after its proclamation.

No. 85.

Mr. Bailey to Mr. Davis.

No. 103.7

UNITED STATES CONSULATE, Hamburg, April 7, 1883. (Received April 25.)

Sir: I have the honor to transmit you herewith an article cut from the Hamburger Nachrichten of this date.

The figures are taken from the official report, and they are furnished for such information as they may contain.

I am, etc.,

J. M. BAILEY, United States Consul.

[Inclosure in No. 103.—Extract from the Hamburger Nachrichten of April 7, 1883.—Translation.]

EXAMINATION OF PORK IN HAMBURG.

The Government veterinary surgeon has published an account of the examinations of American and European pork which have been made during the past five years. He states that 18,619 specimens of American pork were examined during

that time by 48 inspectors. Of these, 175 were found to contain trichinæ. During the same period 60.527 specimens of European pork were examined, not one of which was found to contain trichinæ. It thus appears that 0.95 per cent of the American specimens contained trichinæ and 0.00 per cent of the European. In the year 1881, 73,113 American and 55,799 European specimens were examined by 60 inspectors. Of the former, 695, i. e., 9.95 per cent, were found to contain trichinæ and of the latter 2, or 0.004 per cent. In the year 1880, 78,597 American and 49,943 European specimens were examined by 108 inspectors: of the former, 836, or 1.05 per cent, contained trichinæ and of the latter none at all. In the year 1879, 102,662 American and 47,247 European specimens were examined by 91 inspectors: of the former, 1,290, or 1.16 per cent, were found to contain trichinæ and of the latter 3, or 0.006 per cent. In the year 1878, 49,513 American and 28,173 European specimens were examined by 17 inspectors: of the former, 382, or 0.79 per cent, contained trichinæ and of the latter 3, or 0.01 per cent.

No. 86.

Mr. Frelinghuysen to Mr. Sargent.

[Confidential.]

No. 108.]

DEPARTMENT OF STATE, Washington, April 11, 1883.

Sir: Your dispatches Nos. 121 and 122, of the 15th and 19th ultimo, in relation to the ordinance and regulations of the German Imperial Government for the

prohibition of American pork products, have been received.

Until the text of the promulgated regulations for the execution of the prohibitory ordinance shall be received it may seem premature to consider the details of the question and express an opinion thereon. The general issue, however, is one which can not fail to demand the most careful attention of this Government, not only on its own merits, but also in its bearing upon Article V of the treaty of commerce and navigation between the United States and Prussia, concluded May 1, 1823, and especially the concluding clause of the article, which reads as follows:

"Nor shall any prohibition be imposed on the importation or exportation of any article the produce or manufacture of the United States, or of Prussia, to or from the ports of the United States, or to or from the ports of Prussia, which shall not

equally extend to all other nations.'

The treaty question which may be thus involved is receiving attentive consideration, and may hereafter be the subject of a special instruction to you. Meanwhile I have to thank you or the information conveyed in your dispatches and to remark that your suggestions will have due consideration.

I am, etc.,

FREDK. T. FRELINGHUYSEN.

No. 87.

Mr. Sargent to Mr. Frelinghuysen.

[Extract.]

No. 135.]

LEGATION OF THE UNITED STATES, Berlin, April 13, 1883. (Received May 2.

Sir: I have the honor to state that on the 22d March, 1883, I received a letter from Mr. Emile Neignouret, president of the Chambre Syndicale du Commerce des Saindoux et Sala sons d'Amerique, Bordeaux, France, a copy of which is inclosed, informing me that the French papers were publishing a dispatch from Tilsit. Germany, stating that some cases of trichinosis existed in Tilsit, especially in the garrison, and that there were already 13 deceased. He requested me to make inquiries on the subject, as the syndicate is doing its best to obtain the recall of the edict of prohibition of American meats in France and had already serious promises from the French Government. They were, however, afraid the many advices from Germany like the above would raise difficulties and prevent their success. He expressed the opinion that if there were such trichinosis it came from eating home meats, and not from American salted meat. If the facts could be

ascertained and vouched for by me, it would aid them to obtain free importation

Immediately on receipt of this letter I wrote to United States consular agent, Mr. Conrad Gaedeke, at Konigsberg, the nearest consular officer to Tilsit, inclosing him a copy of it, and informed him that the question of the exclusion or admission of American pork products is now being agitated here and in France, and that he would much oblige me and do the United States a service if he would ascertain and inform me promptly if these cases of sickness referred to exist; and if so, if the pork was of American or other production.

The same day I wrote to Mr. Neignouret, stating that I had ordered an investigation to be made into the alleged cases of trichinosis at Tilsit by the nearest American consul, and if there were such, if they originated from eating American pork. I told him, further, that I find that all cases of alleged trichinosis are ascribed to American pork, even where the proof is open to anyone that they arise from eating raw native or Hungarian pork; that interested parties spread such stories, and frequently the stories are entirely false, there being no sickness; that high German scientific authority states that there is not now and has not been for years any case of trichinosis in Germany from eating American pork.

The United States consular agent at Konigsberg acknowledged receipt of my letter, under date of March 27, and promised immediately to try to ascertain and inform me as soon as possible of all the facts in the matter.

I am now in possession of his report, under date of April 9, in which he informs me that 14 cases of trichinosis have occurred at the garrison at Tilsit, being early in March, all very light, and everybody now recovered. It is officially stated to him that the soldiers did not receive the infected meat in the menage of the caserne, and it is not possible to state where they got it, and not, therefore, whether it is of native or American production, but they probably got the pork from their relatives.

I have to-day written to Mr. Neignouret, giving to him these facts and calling his attention to the exaggeration or falsehood of the telegraphic account in that no deaths had occurred; that the cases were all slight, and everybody had recovered, and pointing out the certainty that, as the pork was probably furnished by relatives, it was the local raw article, which is the ascertained cause of all known cases of trichinosis where the trouble has been taken to trace the cause.

I have also written to Mr. Gaedeke, thanking him for his promptness and efficiency in the matter, and stating that I should take pleasure in mentioning it to

the State Department.

This correspondence tells its own story, and remark may be unnecessary. this case 13 persons are announced as already dead from trichinosis, and the fatal disease still raging, and American pork—that "unutterable flesh"—is swittly assigned as the cause. The disastrous news is spread over the Continent to create prejudice against our productions and strengthen the hands of those who favor prohibition. When the Government officers, peculiarly informed, are questioned, it is found no deaths have occurred; that there were only some slight cases of sickness, and pregnant circumstances imply that American pork had nothing to do with the cases of sickness that did exist.

While the German Government may properly decline to bind itself by the report of its own or any other commission for investigation into the truth or error of its own allegations that American pork products are dangerous to health, and into the soundness of the grounds which it has for striking a severe blow at our trade or manufactures, it may reasonably be expected to be * * * cautious how it lends itself to * * * statements against the interests of a friendly nation cautious how it statements against the interests of a friendly nation. When the chancellor sent his request for the prohibitive ordinance to the Bundesrath he accompanied it by a memorial in which he did not give reasons based on the bills of health of the Empire, but cited at large from a printed pamphlet in German. * * * which pamphlet was a compilation of certain pamphlet in German. * * * which pamphlet was a compilation of certain New York newspaper articles published in 1881, which, while condemning the prohibitory policy of the French Government, laid blame upon the Western packers, who, these alleged, put up meats before they were properly cured, and dwelt upon the carelessness of freight handlers. Western inspection, etc. pamphlet also contained the opinions of French and German exporters that the complaints of the French authorities were unfounded from a sanitary standpoint, and the faults of careless packing could be remedied on through transit meats by having them overhauled at New York prior to shipment. The appointment of a contain form of New York predestors.* The appointment of a was recommended for the purpose. certain firm of New York packers This pamphlet was denounced by Herr Richter, in the Reichstag, as compiled in the interests of the firm alluded to, and as utterly unworthy as authority for the proposed exclusion. Of course, it does not come anywhere near proof of danger

of trichinosis from American pork. Imperfect packing may cause rotten pork, which no one would buy or use, but not trichinæ; yet this unresponsive evidence stands as the basis of exclusion in this Empire to-day. Investigation might * * * [show] that the statements of the pamphlet in regard to packing are false, and that the supervision of the before-mentioned firm is unnecessary. Every barrel of pork that reaches Europe bears its special testimony, and the interests of trade insure fidelity of means. If any steps were taken to as ertain in what condition packed pork reached Germany, the conclusions were not added to the assertions of the pamphlet in the chancellor's memorial; and the investigation carried on under orders of the State Department was not deemed worthy of notice.

One effect of this prohibition is now obvious. The masses here are accustomed to reverence government and look to it peculiarly for guidance in matters which in different communities it could not influence. The Government has condemned American pork products as dangerous to health. Its action fosters alarm in that connection, and it will take years to re-create the confidence in these which has

been impaired.

To avoid multiplying dispatches I will here state that on the 10th there was a discussion on the bill amending "trades law." In section 56b the Federal Council (Bundesrath) is authorized, in cases of necessity, to suspend for a certain period some of the provisions of section 56 and 56a, the same right being conferred upon the appropriate state authorities for the individual states of the Empire. This is not the law regulating imports, which contains a somewhat parallel provision, it being therein provided that the Council may suspend any importation temporarily in case of emergency.

During the discussion Dr. Baumbach proposed an addition to this paragraph, making it obligatory upon the Federal Council to submit its decrees to the Reich-

stag for subsequent approval.

State Minister Scholz declared himself decidedly opposed to this proposal, expressing the view that it would be detrimental to the dignity of the Government to see its decrees annulled so soon after their promulgation. He said the motion of Dr. Baumbach would make the authority conferred upon the Federal Council so entirely illusory that the united Governments would prefer to dispense with it altogether. The minister conceded that there existed in certain cases similar provisions, requiring subsequent parliamentary approval of decrees of the Federal Council, but past experience did not dispose him to advocate an extension of this principle. The proposed motion would confuse legal relations, and he must argently request that it be rejected.

Deputies Heydemann, Maibauer, Dr. Réeand, and Dr. Bamberger spoke in advocacy of Dr. Baumbach's motion. The latter declared it to be of the greatest importance to oppose the principle set up by Minister Scholz. The proposed condition had the very practical purpose of compelling the united Governments to consider duly, before issuing a provisional decree, whether it was in harmony with the law, and whether it would receive the approbation of Parliament. For instance, if the united Governments had been compelled to submit to Parliament for subsequent approval the decree prohibiting the importation of American meat,

he was convinced the decree would never have been issued at all.

He therefore, that there might be no question of the principle, would recom-

mend the adoption of Dr. Baumbach's motion.

Scholz, finance minister, felt called upon to protest energetically against the suggestion that the Government did not in every case maturely consider, before its issue, every provisional decree, and the necessity for subsequent approval could not make it more so.

After speeches by Dr. Hänel, Richter, and others, earnestly advocating the

amendment, it was adopted by a small majority.

I have, etc.,

A. A. SARGENT.

[Inclosure 1 in No. 135.]

Mr. Neignouret to Mr. Sargent.

CHAMBRE SYNDICALE DU COMMERCE DES SAINDOUX ET SALAISONS D'AMERIQUE, Bordeaux, March 22, 1883.

SIR: I now see in our French papers a dispatch coming from Tilsit, and telling that some cases of trichinosis have occurred in this town, especially in the garrison, and that there were already 13 deceased.

I shall be most obliged for your inquiries on the subject, as our syndicate is

making the endeavor to obtain the recall of the edict of prohibition for American meats in France, and we have already received serious promises from our Government; but we are afraid that the many advices from Germany, like the above, will be a difficulty in the way, and perhaps an obstacle to our success.

Besides, if there is such trichinosis, my opinion is that the cases must come from home meats and not from the salted ones imported from America, and should the matter be investigated, your information and certificates on the subject would be of great assistance in our endeavors to obtain the free importation in France.

I rely on you to know exactly what is the matter, and with thanks, remain, etc.,

EMILE NEIGNOURET. The President of the Syndicate.

[Inclosure 2 in No. 135.]

Mr. Sargent to Mr. Conrad Gaedeke.

LEGATION OF THE UNITED STATES. Berlin, March 24, 1883.

SIR: I inclose to you a copy of a letter from Mr. Emile Neignouret, which speaks of some cases of trichinosis from eating pork which have recently occurred at the fortress at Tilsit. The question of the exclusion or admission of American pork products is now being agitated here and in France; and you will much oblige me and do the United States a service if you will ascertain and inform me promptly if these cases of sickness, referred to in the inclosed, exist; and, if so, whether the pork was of American or other production.

Very respectfully,

A. A. SARGENT.

[Inclosure 3 in No. 135.]

Mr. Sargent to Mr. Neignouret.

LEGATION OF THE UNITED STATES, Berlin, March 24, 1883.

SIR: I have ordered an investigation to be made by the nearest American consul into the alleged cases of trichinosis at Tilsit, referred to in your letter, and whether, if there are such, they originated or not from eating American pork. I find that all cases of alleged trichinosis are ascribed to American pork, even where the proof is open to any one that they arose from eating raw native or Hungarian pork. Interested parties spread such stories. Frequently these stories are wholly false, there being no sickness. High German scientific authority states that there are not now, and have not been for years, any cases of trichinosis in Germany from eating American pork.

I will promptly inform you of the result of my inquiries.

Respectfully,

A. A. SARGENT.

[Inclosure 4 in No. 135.] Mr. Gaedeke to Mr. Sargent.

> UNITED STATES CONSULAR AGENCY, Königsberg, March 27, 1883.

SIR: I beg to acknowledge receipt of your communication of the 24th instant, with inclosure of a copy of a letter from Mr. Emile Neignouret. I will immediately try to ascertain and inform you as soon as possible of the cases of trichinosis at Tilsit and whether the pork was of American or other production.

I have, etc.,

CONRAD GAEDEKE.

[Inclosure 5 in No. 135.-Extract.] Mr. Gaedeke to Mr. Sargent.

> UNITED STATES CONSULAR AGENCY, Konigsberg, April 9, 1883.

SIR: In pursuance of my communication of the 27th past, I have the honor to inform you that I have ascertained that fourteen cases of trichinosis have occurred at the garrison at Tilsit in the beginning of March, but that all these cases have been very light and that everybody has already recovered.

It is officially stated that the soldiers have not received the infected pork in the menage of the caserne, but it has not been possible to state whence they got it, and it is therefore impossible to say whether this pork has been of inland or of American production, but it is most probable that the soldiers have received the product from their relatives,

I have, etc.,

CONRAD GARDEKE.

[Inclosure 6 in No. 135.—Extract.]

Mr. Sargent to Mr. Neignouret.

LEGATION OF THE UNITED STATES, Berlin, April 10, 1883.

SIR: Referring to your letter of March 22 and mine of March 24, concerning the cases of trichinosis alleged to exist at Tilsit, I have the honor now to inform you that the United States consular agent at Konigsberg, Mr. Conrad Gaedeke, a very reliable and intelligent gentleman. writes to me, under date of April 9, that he has observed my instructions and investigated the cases of trichinosis at the army quarters at Tilsit, and the causes thereof, and now states * * * that at the beginning of March there were fourteen very slight cases of trichinosis, from which everyone suffering has now fully recovered. The soldiers did not receive the infected pork as rations, but ate it outside, probably receiving it from their relations, in which case it was undoubtedly native pork. As raw native pork is the ascertained cause of all trichinosis in Germany when the cause has been traced, as I am informed by German medical authority, it is most certain to have been the cause in this instance.

I inclose a copy of Mr. Gaedeke's letter, by which you will observe also that the statement that deaths had occurred was totally false, and have, etc.,

A. A. SARGENT.

[Inclosure 7 in No. 135.]

Mr. Sargent to Mr. Gaedeke.

LEGATION OF THE UNITED STATES, Berlin, April 10, 1883.

Sir: I thank you for the promptness with which you have complied with my request to investigate and report upon the cases of trichinosis at Tilsit. I have taken pleasure in informing the State Department of the promptness and efficiency you have shown in this matter. Very respectfully, etc.,

A. A. SARGENT.

No. 88.

Mr. Sargent to Mr. Frelinghuysen.

[Extract.]

No. 137.]

LEGATION OF THE UNITED STATES, Berlin, April 13, 1883. (Received May 2.)

Sir: I have the honor to acknowledge the receipt of your instruction No. 99 of March 14. * * * I beg leave to submit a few considerations suggested to my

mind by the instruction in question.

The phrase used by me in my note of the 23d ultimo addressed to Count Hatz-feldt, pointed out by the Department, was not inadvertent. I carefully weighed every word of that note, and desired to present every reason that could influence the German chancellor to avert the yet suspended blow of prohibition. Please observe that any allusion to action by the American lawmaking power was not suggested to depend upon acceptance of the President's proposition, but upon the fact of prohibition, a measure replete with disaster to an enormous American agricultural and manufacturing interest. In the firm belief, then and now entertained, that phrase-making would not prevent or repeal such an unfriendly ordinance, and only the prospect of retaliatory legislation would, I distantly intimated that the United States, through its only lawmaking body, might possibly take

notice of this prohibition. It certainly should be an element in the chancellor's estimate of the question that a nation of over 50,000,000 people of resolute character and noble history might adopt some form of legislative reprisals. In the absence of instructions, and in the face of an emergency, I advanced this suggestion instead of leaving him to infer or overlook it. Before my note to Count Hatzfeldt was written, the American papers came, containing some of my dispatches in which I had strenuously urged that the only way in which the German Government could be influenced was by the fear of reprisals by legislation. These were republished from the American in the German newspapers, those papers which were our friends in the controversy saying the considerations advanced should be heeded by this Government. * * As these publications necessarily were authorized by the Department, I then saw no error in saying directly, but courteously, to this Government what it was thus informed that I had officially said of it.

I have, etc.,

A. A. SARGENT.

No. 89.

Mr. Sargent to Mr. Frelinghuysen.

[Extract.]

No. 145.]

LEGATION OF THE UNITED STATES, Berlin, April 28, 1883. (Received May 16.)

SIR: I have the honor to report that No. 27 of Commercial Relations, January, 1883, contains a dispatch of mine, on page 1, upon the subject of the prohibition by Germany of our pork products, wherein the representations on the subject by various trade associations and the opposition press are stated, and the reasons why the prohibition is likely to be made, and what remedy the United States may have and should use to prevent such experiments against their interests, are stated.

As was necessary in such a dispatch, the truths, as they appeared to me, were clearly stated, that you might be perfectly familiar with the issue with which our Government had to deal so far as a close observation here, and a zealous wish

to do my duty could enable you to become.

In the dispatch was also a personal allusion, useful to give an idea of the state of feeling here in various circles. Such a dispatch, informing the State Department of necessary facts, was, according to my view, entirely proper. The St. James Gazette recently said, referring to the probability that the English home office was well informed in regard to an annexation:

"With what object do we keep up diplomatic establishments in every European capital if the first hint of a design on the part of some rival power to seize an

important territory is to come from a little group of colonial politicians?"

So it might be asked, With what object does the United States keep up diplomatic establishments in Europe, if they must depend upon chance and tardy sources for information as to measures affecting their interests? To send such information in such a colorless form that if it were published the government to which the minister is accredited could not find a shade of criticism or matter of exception, and yet the Department get from it a true picture of occurrences having inimical tendencies, and of which it should be expressly warned, would seem impossible.

Iinclose, with translation, an article from the Norddeutsche Allgemeine Zeitung, * * * in which it is falsely alleged that the dispatch in question was a newspaper article published by me in a newspaper of New York over my signature, and distorting ingeniously the contents of the dispatch. It ascribes to me the words and arguments which I expressly said were copied from German papers; declares that I said the German Government is not at all a government of public opinion, but is sure to do the exact opposite of what public opinion demands; whereas I said, "If this were strictly a government of public opinion in the American sense, these general public appeals would prevail." It alleges that I said (three months before the ordinance was passed at all) that it was passed by a trick over the heads of the Reichstag, etc. By a comparison with the original you will see the malignity and falsehood of this travesty.

If I had so far forgotten my duty as to publish an article on a political subject

in an American newspaper over my signature, I should feel only repaid even by such gross caricature of what it contained. The paper in question knew that I was innocent of any publication whatever, for a month before it had published was innocent or any publication whatever, for a month before it had published the substance of it correctly, and said it was a dispatch to my Government, and berated the opposition papers for furnishing such arguments against the measures of their own Government. To give plausibility to this attack it was necessary to ignore that, and to sufficiently fire the hearts of its readers it was necessary to grossly misrepresent the contents of the document.

The undoubted purpose of this publication was to work on the patriotic pride

of the Germans by leading them to resent foreign complaint of the action of their Government and make partisans for the maintenance of prohibition. The scheme

was well planned, and undoubtedly works in the way foreseen.

I have, etc.,

A. A. SARGENT.

[Inclosure in No. 145.—Extract from the Norddeutsche Allgemeine Zeitung, April 24, 1883.— Translation.]

In the New Yorker Handels-Zeitung of March 10 last we find a publication which bears the signature of the minister of the United States at Berlin and treats of the prohibition in Germany of American pork. The first half of this article endeavors to describe the "opposition" to the exclusion of American hog products manifested in Berlin and other cities, and refers in particular to articles of the National Zeitung and the—in the meantime deceased—Tribune. A political criticism of the present form of government in Germany is connected with the description of that opposition movement, the German Government being described as one not "in the slightest degree a government of public opinion," but one which most probably always did the reverse of that demanded by the voice of public opinion as well as by the press, on the basis " of logical deductions from indisputable facts."

The decree of prohibition is criticised as an illegal measure adopted over the head of the Reichstag, and characterized by a leader of the opposition in the Reichstag

to be the author of the article as being an "unworthy trick."

It is possible that a German deputy has used such an expression to the representative of a foreign power. We know more than one whom we consider capable of such an act. On the other hand, it surprises us to find the signature of a minister

accredited to His Majesty the Emperor under such declarations.

In the article it is further stated: "The Tribune, an influential organ of the party of progress, has convincingly shown the sanitary harmless...s of American It was solely in the interests of the larger landowners and meat producers of Germany that the prohibition which took 15,000 marks annually from the poor to give them to the rich was issued." At this point the style of the publication attains a pathos to which we fear our quotation will not do justice. It is stated word for word:

"But woe to the poor who pay to him (the rich) the 15,000 marks: woe to the hungry who imagine that it is a duty of the Government not to allow the price of food to become too high."

The National Zeitung had also furnished a similar argument that could not be refuted in favor of American interests: that journal had in particular asserted that last year's good harvest had afforded such rich profits to German landowners that their interests did not require this exclusion of American pork from German mar-Here, too, therefore, the unvailed insinuation is uttered that the imperial Government had adopted those measures solely for the purpose of favoring a single class, while the existence of weighty sanitary police motives for the prohibition is not conceded or mentioned with a single word.

In the last part of the publication the damage to American interests to result from the decree of prohibition is referred to, and reprisals are threatened, leaving out of consideration the fact that North America for whole decades has shut itself off from the products of European industry by the highest protective and prohibitive duties, without our ever having thought of demanding of America considera-

tion for injured German and disregard of American interests.

The publication closes with the declaration that America "can not submit to the

exclusion of her products under false pretences."

The article therefore anticipates the employment of international pressure to force the American triching upon the German consumer, after the latter has borne the burden of inconsiderable taxation in order to be protected against the domestic This view is not without analogy to that which was at the bottom of the Chinese opium war. What would the public and the press say in England if a

German publication, similar to that contained in the columns of the New Yorker Handels-Zeitung, had attacked the prohibition of the importation of German cattle into England with such arguments, and if under such publication the name of the German ambassador accredited to the Queen of England had stood? Assuredly such international warfare would not have found in the English press organs to advocate the interests of a foreign land at the expense of domestic policy.

No. 90.

Mr. Von Eisendecher to Mr. Frelinghuysen.

IMPERIAL GERMAN LEGATION, Washington, May 2, 1883. (Received May 4.)

Sir: I have received from my Government copy of a note addressed by Mr. Sargent to Count Hatzfeldt, under the date of February 23 of this year, for the purpose of preventing the ultimate proclamation of the prohibited measures resolved upon by the confederate governments against the importation into Germany of American bacon, hams, and pork.

Under instructions from the chancellor of the Empire, I have the honor to com-

municate to you the following reply to the note in question:

The prohibition resorted to by Germany is a measure of internal German legislation, found necessary after careful investigation on sanitary grounds and closely connected with the internal institutions of the country.

Germany has always carefully avoided all interference in regard to measures which other governments, and especially the Government of the United States.

think just to adopt in the interest of their country.

This principle of noninterference has been preserved by Germany also in relation to the high and often prohibitive duties inposed upon German industries in the United States in consequence of their adopted financial system. Germany has never even ventured the slightest remarks in this respect tending to suggest an eventual friendly consideration of German interests in the framing of American interval laws and measures. In the prohibition referred to above, however, higher interests of the nation are at stake than tariff laws; that is, the protection of the people against a danger to health. Now, as Germany, by its strict and rigorously enforced legislation, affords the same protection to its people at home against all danger from German cattle and hogs, it can not possibly treat the foreign producers better than its own.

An investigation of the American methods of raising hogs and preparing hog products by a commission of German experts in the United States could not effect

a material change in this respect.

Germany. taking fully into account the very considerable importation of German cattle into England, would nevertheless not feel at liberty to request the British Government to inquire into the necessity of the restrictions imposed upon the importation of German cattle into England by a commission traveling over Germany. The measures adopted in England against the importation of German cattle are also based upon sanitary but much less important reasons than those existing in Germany in regard to American pork. Even the most favorable report rendered by such traveling members of a commission about the health of German cattle and the methods adopted in Germany for its preservation would not constitute a sufficient motive for the British legislature to recall their sanitary precautionary measures.

Austria-Hungary also, to whose cattle the German frontier has been closed upon sanitary grounds for a number of years, has not considered the suggestion of an inquiry by German officials within its possessions as a likely means to have that

prohibition removed or made less rigorous.

These extensive and long-established prohibitive measures against Austria-Hungary, a country bound to Germany by the closest political and commercial ties, may at the same time be mentioned as a proof that, taking for granted an impartial and unbiased consideration of the question, such measures which due regard for the health of the people compels the Government to adopt need in no way interfere with our friendly relations existing with Austria, England, and America.

Expressing the hope, in the name of my Government, that the foregoing remarks may receive at your hands the appreciation warranted by the happy and friendly relations of both nations and their Governments, I avail, etc.,

VON EISENDECHER.

No. 91.

Mr. Frelinghuysen to Mr. Sargent.

[Extract.]

No. 116.]

DEPARTMENT OF STATE, Washington, May 4, 1883.

Sir: Your action, as reported in your dispatch No. 135, of the 13th ultimo, in causing an investigation of alleged cases of trichinosis at Tilsit, is heartily approved by the Department. It is desirable that every well-authenticated report of an outbreak of trichinosis in Germany which may come to your ears should be inquired into on the spot, with an honest and evident purpose to arrive at the exact facts so far as may be possible.

I am, etc.,

FREDK. T. FRELINGHUYSEN.

No. 92.

Mr. Sargent to Mr. Frelinghuysen,

[Extract.]

No. 146.]

LEGATION OF THE UNITED STATES, Berlin, May 4, 1883. (Received May 21, 1883.)

Sir: I have the honor, referring to my No. 145, of 30th April, to state that the Norddeutsche Allgemeine Zeitung has, since I sent said dispatch—viz, in its issue of the 1st May—partially atoned for the inhospitable attack upon the representative of a foreign government, and its gross misrepresentations of his utterances, by publishing the whole of my dispatch of January 1, accompanying it with the remarks that it had no wish to be inhospitable to an accredited representative to His Majesty of a friendly foreign country, but still affecting to believe that my name to the document was a forgery or unexplained. It is somewhat comically contradicted in this by the introductory remark of the New Yorker Handels-Zeitung, which it copies, and which precedes the dispatch in its columns. This apology is as much as may well be expected, * * * and perhaps much more, and I presume the incident is terminated.

Meanwhile the German and Continental press has been somewhat busy over the matter. The semiofficial German press has become very moderate or been silent.

The London Times correspondent of the 1st instant says:

"Imitating the action of the German federal council. the Greek Government has, from sanitary considerations, forbidden the importation of all sorts of American pig flesh. It may be mentioned that Prince Bismarck's organ, the North German Gazette, publishes to-day the text of the dispatch which Mr. Sargent, the American minister here, addressed to his Government on the subject of the interdict, and on an incorrect rendering of which this organ founded its late personal attack on the accredited representative of the United States, an attack which any member of the diplomatic corps would have been justly entitled to regard as a clear infringement of his rights and privileges. The publication of the full dispatch in question, though prefaced by a weak and transparent attempt to excuse the previous attack, must therefore be regarded as an humble but inadequate apology to the American minister, seeing that the North German Gazette thus convicts itself of having grossly misrepresented his excellency's meaning and imputed to him words which he never used."

The North American Times, published in London, says:

"The United States minister at Berlin has been attacked by the Norddeutsche Zeitung for sending to a New York paper his official report on the prohibition of the import of American pork into Germany. How does the journal know that the minister sent the article in the New York paper? And how can it complain of Mr. Sargent sending a dispatch to his Government on a matter concerning American commerce? It is the duty of the minister to write such dispatch, to express an opinion on the matter, to quote other opinions both for and against—in a word, to give his Government all the information he could glean. The point of attack

is that the North German Gazette is under the inspiration of Prince Bismarck. and the exclusion has been exciting a strong feeling on the other side.

The same paper, referring to a former dispatch in the London Times, says:

"The Times tells us that the minister's comments thus published in a New York trade journal have caused no slight displeasure in high quarters in Berlin. But we can tell those who feel this displeasure that their action had aroused no slight displeasure among the sovereign people of America; not that the exclusion is a matter of moment just now, but that it indicates an inclination to exclude American products generally. It is true, as the Times remarks, that 'the measure was less of a sanitary than of a prohibitive nature.'"

The American Register, published in Paris, has the following:

"The North German Gazette, the official organ of Prince Bismarck, criticises

an article in the New Yorker Handels-Zeitung respecting the prohibition import of American pork into Germany. The article in question spoke of reprisals, and was signed by the American minister at Berlin. The North German Gazette expresses surprise at seeing the signature of the American minister to the article in question, and adds that 'when the article in question speaks of reprisals in order to force American trichinæ upon German consumers, it was an argument not

unlike that which formed the ground of the Chinese opium war.'
"The commercial policy of Prince Bismarck is a protective policy, and so far it resembles that of the United States. Now, the protective system is essentially one of strict reciprocity, and it was only the other day that the German minister of commerce threatened Spain with reprisals. There is therefore no reason why the minister should be so horrified at the system which he applies to others being applied to himself. Of course, Germany does quite right to exclude American pork when it is infected by trichinæ, but what Americans object to is the assumption that American pork is infected with trichinæ after it has been shown that, owing to the length of the voyage from America to Europe, the parasite can not survive in the dead animal, and that, therefore, trichinæ in American pork are an impossibility. It is very curious that, while the North German Gazette denounces American pork, the French papers denounce that of Germany on similar grounds. Perhaps German trichinæ require to be protected, and if so, the solicitude of the North German Gazette for their welfare is comprehensible."

I have, etc.,

A. A. SARGENT.

[Inclosure in No. 146.—Extract from the Norddeutsche Aligemeine Zeitung, May 1, 1883.—Translation.]

The Börsen Courier brings an alleged conversation with the American minister,

Mr. Sargent, with reference to our article of April 24.

We can make no better answer to the statements it contains than by simply furnishing a copy of the article which appeared in the New Yorker Handels-Zeitung over the full signature of the minister. We must leave it to the organs which have relations with the minister to enlighten the public more effectually than has heretofore been done as to how this article could have been reprinted in the New Yorker Handels-Zeitung with the minister's name and official title without a protest or correction, official or otherwise, having hitherto been made with regard to this abuse—for as such we must now regard it—of the name of the minister. We, in our turn, protest against the heading selected by the Börsen Courier for its article, "The American minister and the Norddeutsche Allgemeine Zeitung." We shall never permit ourselves to so far violate hospitality and international courtesy as to attack or criticise the official acts of a minister of a friendly state accredited to His Majesty the Emperor. We have to deal only with the article of the New Yorker Handels-Zeitung, offensive to the German Empire, and we should be glad to learn that the signature to that article is based upon some

The article is as follows:

"The report sent to our Secretary of State dated January 1 last, of United States Minister Aaron Sargent, at Berlin, in the matter of the prohibition of the importation into Germany of American pork, of which we communicated an extract in the last number of this sheet, reads as follows:

[Here follows a translation of the text of the minister's dispatch.]

No. 93.

Mr. Sargent to Mr. Frelinghuysen.

[Extract.]

No. 147.]

LEGATION OF THE UNITED STATES, Berlin, May 5, 1883. (Received May 21.)

Sir: I have the honor to report that in obedience to your telegraphic instruction to execute the instruction 99, I had an interview on yesterday with Count Hatzfeldt, it being the first opportunity therefor, and read the same to him, stating that I was happy to present the views of my Government upon the note which I had heretofore addressed to him asking a suspension of the prohibitory ordinance until an examination into the soundness of American pork could be made by a commission of German experts, and at his request I left him a copy of your said No. 99.

Count Hatzfeldt replied that he was glad to have a formal communication from the State Department showing that the note had exceeded the views of the American Government in some particulars, viz, its discussion of the internal affairs of the German Government, and the menace that the American Government might resort to retaliatory measures, although he had already been informed of that fact from Washington. He also said he would lay the matter before the chancellor, who would no doubt be much pleased, and all the more as the relations between the two Governments had always been so satisfactory.

resort to retainatory measures, attnough he had already been informed of that fact from Washington. He also said he would lay the matter before the chancellor, who would no doubt be much pleased, and all the more as the relations between the two Governments had always been so satisfactory.

Considering my duty expressly limited by your instruction, I refrained from discussion, and did not say what seemed to me true, and on again reading my note still seems to me to be so—that I have not discussed in it the internal affairs of the German Empire except so far as its acts directly affected America, and that your No. 99, then presented, contained no correction on my views in that regard.

I have, etc.,

A. A. SARGENT.

No. 94.

Mr. Sargent to Mr. Frelinghuysen.

[Extract.]

No. 155.]

LEGATION OF THE UNITED STATES, Berlin, May 19, 1883. (Received June 5.)

Sir: The fierce heat of discussion that has followed the publication of my report of January 1 on the prohibition of American pork, or rather since the attack upon the same by the North German Gazette, especially the severe comments upon that paper and on the imperial administration by the American press, have compelled the same paper to finally attempt a justification of the prohibitory ordinance by showing that clear sanitary reasons exist therefor. I send this article to you inclosed with translation that you may have both sides of the case and the best that can be * * * said for the ordinance. * * * I will remark that its statements of German facts are contradicted by the representations of the members of the Reichstag who opposed the measure. Thus, Herr Richter said that proofs are accessible that the cases of trichinosis observed in Germany arise from the use of German chopped meat. Dr. Barth refuted the statement from statistics, which are now marshaled in the North German Gazette, and which were then presented by Dr. Kohler, and declared the American meat to have been demonstrated as comparatively sound. Deputy Ahlhorn stated in the same debate that he had collected many reports and made many investigations, but not a single case had been authenticated whose sickness had been caused by using American lard or bacon.

You will observe that the Tilsit cases are referred to in this article to strengthen the argument, although, as it must be * * * known that I had investigated that matter, and knew that the amount of disease was greatly exaggerated, and that the pork used was undoubtedly the domestic article, this case is passed lightly over as a newspaper statement. * * * The great fact remains that the bills of health show no particular inconvenience from the consumption of this article of food in Germany or elsewhere. The article admits that such inconvenience does not arise elsewhere and would not exist in Germany did not the consumers here like the flavor of raw pork. There may be something in the argument that the

customs of a country should be considered by its rulers, and if the people here will eat raw pork, and so get disease, diseased pork that would be made sound by cook-

ing must be kept out of the country. * * * *

The falling off of importations of American pork being so great as represented, it is claimed that the alleged evil should soon cure itself, and it is not worth while to disturb the tranquillity of two continents by prohibiting an importation that has decreased by eight-ninths in a single year. The argument is not ingenuous. A partial prohibition, covering all our chopped meats and sausages, was in operation in 1882, and the threatened prohibition of all pork products, which has been since pending, contributed, with less production in the United States, to decrease the amount sent here.

I have, etc.,

A. A. SARGENT.

[Inclosure in No. 155.—Extracts from the Norddeutsche Allegemeine Zeitung, May 16, 1883.—

In view of the lively discussion caused by the publication of the report of the American minister at Berlin, concerning the prohibition of the importation of American pork, it seems appropriate to call attention to the sanitary grounds upon

which alone the issue of that prohibition was based.

On the American side it is asserted with emphasis that the frequent occurrence of trichinæ in American pork is a fable, such pork being really much more healthy This assertion is entirely unfounded. Apart from the circumstance that uniform measures for the suppression of contagious diseases of animals are utterly wanting in the United States, the official investigations, even as to the extent of the danger, and especially as to the occurrence of trichine, are not commensurate with the requirements that must, in the interest of thoroughness, be insisted on in compiling statistics. The pamphlet of Mr. Scanlan, "American pork," often cited by the opponents of the prohibition, touches trichinosis quite superficially only, confining itself essentially to general unauthenticated statements of individual pork packers and by hog raisers, that is to say, of persons interested in an unobstructed sale.

Under these circumstances we must consult supplementary investigations in Germany and other countries of Europe and the statements of American experts

(veterinary and medical persons).

Let it be remarked in advance that the microscopic examination of hogs raised in Germany has yielded the following results: Of 12,816,931 hogs examined in Prussia during the period from 1876 to 1880, 6,945, or 0.054 per cent, contained trichinæ; of 29,822 examined at Dresden in 1878, and of 41,500 examined at the same place in 1881, 11 and 7, or 0.036 and 0.017 per cent, respectively, were thus affected; and of 444,832 hogs examined in the duchy of Brunswick during an extended period, 74, or 0.017 per cent, contained trichinæ.

How, on the other hand, does American pork stand in this respect? The health commissioner of the city of Chicago, Dr. Dewolff, found that from 3 to 5 per cent of the hogs examined by him contained trichinæ. The health officer of Erie, Pa., Germer, places on the basis of an experience of long years the percentage of hogs containing triching at something less than eight in a hundred. Billings, of Boston, a veterinary surgeon educated in Germany, has particularly occupied himself closely with the subject, and pursuant to his latest communications in No. 222 and in later numbers of the New York Medical Journal of March last, there were in 1879, among 2,701 hogs, 154, or 5.7 per cent, and in the years 1879, 1880, and 1881, among 8,774 hogs, 345, or about 4 per cent, which were found to contain trichine. The results of investigations in Europe are entirely in accord herewith. At Turin, Volanti found 4 per cent; French experts found 3 per cent to contain trichinæ. In Germany the average of imported American pork is 4 per cent. A lot of living hogs imported thence into Germany in 1880 yielded even 15,9 (in Dresden) and 23.3 per cent (in Magdeberg) containing trichinæ. It is therefore evident that the danger of trichinosis from indulgence in American pork, including the sides of fat, which always contain layers of meat, is absolutely, as well as in comparison with our German product, extremely great; it is more than sixty times as great as in the case of German pork.

Examinations at the places of importation have not proven to be an efficacious means of control, the microscopic examination being less reliably performed at those places in consequence of the great quantities to be inspected in a short time. It thus repeatedly occurred that meat certified to at a port of entry as being free from triching was, upon a subsequent examination in the interior, found to con-

tain trichinæ.

The objection has been raised that the number of cases of disease actually arising from indulgence in American pork is not in harmony with the above. To meet this objection it must be stated that in ports of entry epidemic trichinosis has repeatedly been proven to have been caused by indulgence in such meat (as, for instance, in Bremen, Rostock, Dusseldorf, and, according to recent newspaper notices, at Tilsit), but that apart from these instances, it has in many cases been found quite impossible to ascertain the source of meat that had occasioned disease, the fact having been established that a very considerable part of the pork from America is sent to Germany but slightly cured (brined), and is then worked up here and adapted to German taste, and finally put on the market as Westphalian hams, Gotha or Brunswick cervelat, sausages, etc. The American method of preparation does not suit German taste. Diseases arising from trichinæ wares thus imported, or naturalized in Germany, are, as a matter of course, charged to the account of our domestic hogs.

It is also an entirely unfounded assertion, in conflict with the results of close scientific examination, that trichinæ are destroyed by the customary salting and smoking of pork. There is but one reliable way of attaining this end-to cook the meat thoroughly, triching not being able to withstand boiling heat. In point of fact, in most of the other States of Europe pork is eaten only when thus cooked, and that is why there is much less complaint about triching elsewhere than with us, for the German consumer prefers a product the natural good flavor of which is not impaired by high seasoning. But as our Government must, in the measures it takes, reckon with the habits of our people, it was a simple duty on its part to ward off by a decree of prohibition so serious a danger, and one against which the poorer portion of the consuming public, in particular could not in the least protect

itself.

In conclusion, a word about the economic importance of the importation. amount of meat (fresh and prepared, article 25, g. 1 of the tariff) imported into Germany in 1881 was 190,090 double hundredweight; deducting the amount of the export, 56,283 double hundredweight, there remains 133,807 double hundredweight meat (game, beef, veal, pork, sides, etc.); of this amount three-quarters, or 100,355 double hundredweight, consist of pork and sides. The entire consumption of pork, including sides from domestic hogs and from importations (in particular from Russia and Austria-Hungary) of pork and living hogs, amounted, on the other hand, in 1881, according to the most exact calculation possible, to 4,106 double hundredweight; hence the importation from abroad of pork covers only 2% per cent of the entire amount consumed. But even this comparatively small amount of 100,305 double hundredweight decreased in the year 1882 to the ninth part; that is to say, to 11,444 double hundredweight, although no decree of prohibition had as yet been issued, and the apprehension of such decree should rather have stimulated importation. Thus the best testimony is afforded of the slight importance of the matter from an economic standpoint.

No. 95.

Mr. Sargent to Mr. Frelinghuysen,

[Extract.]

No. 157.]

LEGATION OF THE UNITED STATES, Berlin, May 21, 1883. (Received June 5.)

SIR: Wishing to keep you informed of all facts bearing upon the controversy in regard to the exclusion of American pork products, whether the same be of greater or less importance, I have the honor to state that * * * the North German Gazette published on yesterday, but without comments, another of my dispatches on the above-named subject, crediting it to the "Reports of consuls of the United States." It is to be found on page 39 of the January number of that publication.

So far as I have observed no comment has so far appeared in any German newspaper upon the strenuous articles in the American press which have followed the

North German Gazette's attack on the American minister.

I have, etc.,

A. A. SARGENT.

No. 96.

Mr. Davis to Mr. Sargent.

[Extract.]

No. 119.7

DEPARTMENT OF STATE, Washington, May 23, 1883.

SIR: Your No. 145 of the 28th ultimo has been received. The Department appreciates the embarrassment to which you have been subjected by the misrepresentation in the Norddeutsche Allgemeine Zeitung of your published report of January 1, on the subject of the impending prohibition of American pork imports

in Germany.

It is quite evident that the embarrassments to which you advert were not due to the fact of an official publication of your report by the Department, but to what appears to have been a willful perversion of that fact by an unfriendly journal, which, if later telegraphic reports are to be credited, has been brought to admit the groundlessness of its main allegation, that you had corresponded on the subject with an American journal, and to admit that the obnoxious views it had attributed to you were in reality the views of the German press quoted by you.

The Department gives to the consideration and preparation for publication of the dispatches of its agents abroad every attention, with the object of guarding against the publication of their personal views which might, if known, expose them to criticism or censure in the land of their official residence. On an examination of the blue books of other Governments, it is believed that far more care is here exercised in this respect than in other countries. It is, of course, impossible to prevent malicious or honestly mistaken perversions of such publications by outside parties.

I am, etc.,

JOHN DAVIS, Acting Secretary.

No. 97.

Mr. Frelinghuysen to Mr. Surgent.

[Extract.]

No. 141.]

DEPARTMENT OF STATE, Washington, July 25, 1883.

SIR: I inclose herewith for your information a copy of a note addressed to this Department by Mr. Von Eisendecher, dated May 2, in which he communicates. by instruction of his Government, the reply to your note to Count Hatzfeldt of February 23 last. Previous instructions from this Department, No. 88, of February 21, 1883, and No. 108, of April 11 last, have already put you in possession of the views of the President on this subject. A perusal of Mr. Von Eisendecher's note will immediately suggest to one so familiar as yourself with this particular question, as well as with the distinction between general and discriminating internal measures, certain points wherein it is open to valid answer.

It will be observed that the note contains in substance, although not in terms, a

rejection of the President's proposal that a commission of German experts be appointed to examine into the raising and packing of hogs and hog products for food, because Germany by its laws affords its people protection against danger from German cattle and hogs and can not treat the foreign producers better than its own, and therefore an investigation of the American methods of hog raising and preparation would not effect a material change. With the sanitary legislation of Germany thus alluded to this Department is not familiar, but it might well have occurred that a careful investigation of the processes in the United States would have shown that strict legislation of this character is unnecessary here, because of the different situation of the two countries and the different methods followed in the United States by reason of their large area of thinly settled land, the cheapness of corn and grain, and other incidents peculiar to the occupation of hog or cattle raising in a large and sparsely populated country.

The appointment of the commission suggested would at least have prejudiced nothing, and might have resulted in removing the fears of the Government of His Majesty, and thus aided in securing the revocation of a decree which seriously

impaired an important trade between the two countries.

The parallel sought to be drawn between the protective tariff system of the United States and this prohibition of the importation of American pork and pork products does not seem to be well founded. Our tariff is a measure of general application; it applies to German exports to the United States no more and no less than to the French, Austrian, or English exports; it is distinctly an internal measure of general and universal application, and as such no more open to objection than any other well-considered and fair system of taxation or custom tolls. Were our tariff to prohibit the importation of certain articles because they come from Germany, permitting the importation of the same articles coming from other countries, or were it to impose a higher duty upon German exports as such than upon the same exports from other countries, then the parallel to the decree now alluded to would become apparent. Nowhere in the tariff, however, is such a discrimination found.

The objection to the decree is not that it excludes unhealthy or diseased pork, or pork products, for such a decree would be a praiseworthy sanitary measure, but that it excludes American pork, healthy or unhealthy, good or bad; the test is not the condition of the food, but the place it comes from. In certain exceptional cases even discrimination in this form would be unobjectionable, as during the prevalence of an epidemic. On this principle, all vessels coming from certain infected ports are quarantined regardless of the actual health of the passengers and crew, but such measures are at the most only temporary and should be based upon good cause; whereas in the present case there is nothing to show the decree to be of temporary application, and this Government has offered to that of Germany an opportunity to examine into the facts for the purpose of discovering whether the alleged cause actually exists, which offer has not been accepted.

The fact that certain exceptional legislation in Germany as to Austro-Hungarian cattle has not met with objection from that Government may arise from the geographical situation of the countries requiring peculiar and strict regulations not so properly applicable to the products of a nation over 3,000 miles distant, and which can only reach Germany by well-known channels through ascertained ports, where they may be easily examined and inspected. * * *

I am, etc.

FREDK. T. FRELINGHUYSEN.

Mr. Von Eisendecher to Mr. Frelinghuysen,

IMPERIAL GERMAN LEGATION; Washington, July 27, 1883. (Received August 1, 1883.)

ESTEEMED MR. SECRETARY OF STATE: The United States minister at Berlin some time since communicated to the secretary of state for foreign affairs the instructions sent him by his Government under date of March 14, 1883, relative to the German prohibition of the importation of American hogs, etc.

In connection with this communication, for which the chancellor of the Empire feels grateful to your Government, the Imperial Government desires, referring to the previously received note of the United States minister, again to explain its

own position in this question.

The aforesaid note of Mr. Sargent made an unpleasant impression in Berlin, both because of its interference in the domestic affairs of Germany, and of its tone, which was not in harmony with the friendly relations existing between the two Governments. The German Government is consequently much gratified to find that the Government of the United States does not adopt the position taken by its

representative in his aforesaid note.

In issuing the prohibitive decree in question the object had in view was simply the adoption of a sanitary measure. The only design of Germany was to protect her own population from disease, and there is less reason to suppose that there was any intention to pursue a course calculated to influence the relations existing between Germany and America, inasmuch as similar prohibitions of the importation of American pork have long existed in other countries, viz, in France, Italy, Austria-Hungary, and Greece, which circumstance has occasioned no similar proceeding on the part of the American representative at Paris, Rome, Vienna, or

This difference of action causes the more surprise at Berlin, since in Germany only does this complaint made by America furnish ground to the political opponents of the Government on which to base their denunciations of its course.

The trade in hogs and their products is subjected to the most rigid control in

the interior of Germany. Not only does the sale of pork containing triching subject the seller to severe penalties, but even the manufacture (through negli-

gence) of pork products that may endanger the health of the consumer.

There are, moreover, in the various districts of Germany police regulations providing that all pork shall be examined, and that all hogs, before being slaughtered (even by private parties), shall be subjected to a microscopic examination. Butchers are, furthermore, obliged to slaughter their hogs in slaughterhouses which are under police inspection. The prohibition of the importation of these products of the American market was therefore indispensable to the observance of strict impartiality toward citizens of the German Empire and foreigners.

With regard to the proposition to allow the American slaughterhouse arrangements, etc., to be examined by a commission of German experts, the Imperial Government gladly recognizes the good intentions thereby manifested; it is unable, however, to reach the conviction that such an examination would secure the desired result, since, although the Imperial Government does not doubt that precautionary measures are adopted in many such establishments in America, or that the products in question are prepared with care and under proper inspection, it nevertheless thinks that it is impossible to secure and maintain uniformity among all such establishments in the United States, and a German commission will never be able to become convinced, even from the most complete arrangements of exporting houses, that the latter are able to furnish a constant guaranty of safety from trichinæ. The sending of such a commission would doubtless reveal the best intentions and the most perfect order in the establishments visited by it, but also the impossibility of preventing the exportation of trichinous pork even when every conceivable precaution is taken.

It may be remarked in conclusion that a petition remonstrating against the prohibition to import American pork was some time since received from the tradesmen of Königsberg, some of whom, and the very ones who have been most prominent in getting up the petition, have since been punished for selling trichi-

nous American pork.

Accept, etc.,

VON EISENDECHER.

No. 99.

Mr. Frelinghuysen to Mr. Sargent.

No. 156.]

DEPARTMENT OF STATE, Washington, October 9, 1893.

Sir: With reference to previous correspondence on the subject. I have to inform you that in view of the action taken by Germany and several other foreign powers in prohibiting the importation of American pork upon the ground that it is an unhealthful article of food, this Government has now taken measures for such a thorough investigation of the subject as will, it is thought, leave no doubt whatever as to facts.

To this end the President has designated a commission which he has charged with the duty of making a searching and impartial examination of all the condi-

tions of hog raising and packing industries of the United States.

The chairman of the commission is Dr. George B. Loring, the Commissioner of Agriculture, whose official duties for several years past have made him familiar with the subject now submitted to the commission for formal investigation.

The other members of the commission are:

First. Prof. C. F. Chandler, an eminent scientist of New York, who was unanimously selected by the chamber of commerce of that city on account of his pecul-

iar competency for the position;

Second. Eliphalet W. Blatchford, esq., who was nominated by the Board of Trade of Chicago as an intelligent gentleman of the very highest social and business standing, who "is in no way personally interested in the business to be investigated, and is possessed of those characteristics which it is believed will enable him fully, ably, and fairly to cooperate with the other members of the commission in placing these most important interests in their true position before the Government, and through it before the commercial world;"
Third. F. D. Curtis, esq., of Charlton, N. Y., recommended by the Department

of Agriculture as a gentleman who has given long and diligent study to the

industry; and,

Fourth. Prof. D. E. Salmon, of Washington, D. C., nominated by the Commissioner of Agriculture, and well known as one of the most learned and skillful veterinary surgeons in the United States.

This commission will be organized at an early day, and the results of its inves-

tigation will be submitted to Congress as soon as practicable.

As the Imperial German Government has declined to be represented, it will not be necessary for you to communicate the contents of this instruction to that Government, but you may, when a suitable opportunity presents itself, informally make known to the foreign office the action which this Government has taken with reference to the matter.

I am, etc.,

FREDK. T. FRELINGHUYSEN.

No. 100.

Mr. Sargent to Mr. Frelinghuysen,

No. 201.7

LEGATION OF THE UNITED STATES, Berlin, October 15, 1883. (Received October 29.)

SIR: I have the honor to state that I have observed with some interest the news in the German newspapers as to the existence of trichinosis in the Empire since the absolute exclusion of American pork and pork products, and since a sufficiently long time has elapsed to insure accuracy in the conclusion that the stock of American products of that kind is exhausted. From time to time notices of the prevalence of the disease have appeared.

It seems to me now just to conclude that cases reported are caused by the consumption of German or some other than American pork; and that it is no longer possible to ascribe to the articles furnished by the United States the disagreeable

results of the consumption of raw pork.

In the Berliner Tageblatt of October 11 appears a telegram from Ermesleben, near Halberstadt, in Prussian Saxony, in which it is stated that there are now in that town about one hundred and eighty persons who have been seized with trichinosis. It is also stated that the epidemic does not seem to have reached its height, as new cases are reported daily, and that four persons have already died.

It is entirely safe to say that no such epidemic as this is shown to have ever resulted from the consumption of American salted pork, which must be cooked to

be eaten.

I have, etc.,

A. A. SARGENT.

No. 101.

Mr. Smith to Mr. Davis.

[Extract.]

No. 104.7

UNITED STATES COMMERCIAL AGENCY, Mayence, October 17, 1883. (Received November 12.)

SIR: As all items which appear in the newspapers of Germany respecting the occurrence of cases of trichinosis in the Empire are doubtless of interest and value to the Department just at this time, when American pork is excluded from this country under the plea of unwholesomeness, I have the honor to herewith lay before you the following short article which I met with in yesterday's evening edition of the Frankfurter Zeitung in regard to numerous cases of trichinæ infection recently brought to public notice in the province of Saxony, namely:

"FROM THE PROVINCE OF SAXONY.

"Various places in the province have recently been badly afflicted by trichine. In Ermesleben, according to the Nordhauser-Zeitung, are at present 183 persons down therewith; in Deesdorf, about 70-80; in Nienhagen, 57; in Crottorf, about 30-40; furthermore, are also lying in Gröningen, Klein-Gröningen, Quenstedt, Schwanstedt, and Wegeleben, persons ill from trichinosis. Cases of death have also begun to occur; in Quensiedt, 1; Ermesleben, 5; Gröningen, 2; and there are 30 or 40 persons of whose death intelligence is daily expected. The distress is indescribable. In Ermesleben, Crottorf, Deesdorf, Nienhagen, are whole families The cattle have departed in search of food, because there is no one to attend to them, or otherwise must have gone hungry. The physicians are of the opinion that a further extension of the disease is to be feared, for, according to

previous experience, persons who have partaken of flesh infected with trichinæ, not in a fresh state, but as black pudding, pickled pork, boiled flesh, etc., only after four weeks, and even later, have been seriously attacked with the malady.

A judicial investigation is now in full progress."

I doubt not that I am fully justified in saying that there is no instance on record of the consumption of swine flesh in the United States of America having ever played such havoc with a community as that set forth in the foregoing article, and to the major part of our people it would seem almost impossible that any calamity of the kind could take place. In comparison with his German kinsman, the American hog is a very inoffensive creature, and more sinned against than sinning. He is reviled and persecuted here, but I do not believe that it is really so much because his flesh is considered dangerous as a food as because it is inimical to the farming interests of the Empire. Anyway, the Government at Berlin has forbidden its importation, and the great body of the German people are honestly of the opinion that its flesh is suspicious. * * * A residence of two years in Europe has led me almost to conclude that the people over here are very much inclined to regard everything American and from America as of the devil, for the devil, and by the devil, and ought to perish from the earth. Potato rot, phylloxera, trichinæ, and all the pests, plagues, hurricanes, and direful calamities by which the nations are visited, according to their disordered imaginations, have their origin in America.

I have, etc.,

JAS. HENRY SMITH.

No. 102.

Mr. Frelinghuysen to Mr. Sargent.

[Telegram.]

DEPARTMENT OF STATE, Washington, October 20, 1883.

Mr. Frelinghuysen telegraphed to Mr. Sargent, instructing that a thorough investigation be made promptly by the nearest consuls of the origin of present trichinæ cases reported in Germany, for the information of the commission.

No. 103.

Mr. Sargent to Mr. Frelinghuysen.

No. 204.]

LEGATION OF THE UNITED STATES, Berlin, October 20, 1883. (Received November 10.)

SIR: Referring to my No. 201, of 15th October, relating to the prevalence of cases of trichonosis in Germany since the absolute exclusion of all kinds of American pork products, and after the lapse of sufficient time to exclude the conclusion that the cases of disease arise from the consumption of American pork, I am now enabled to state fuller particulars of the epidemic that has broken out in Prussia, as I gather them from the Berlin newspapers and the dispatches sent from this city to the London journals. A telegram from Berlin to the London Daily News of Tuesday last has the following:

"Considering the Draconian measures taken by the German Government against the importation of American pork, it is very strange that a most alarming outbreak of trichinosis is reported from Saxony. In some ten villages nearly 400 persons, including entire families, are prostrated by the terrible disease. Deaths are occurring daily, and over 50 cases are stated to be beyond hope, while the physicians expect the disease to spread still further. The police are actively

engaged in searching for the origin of the epidemic.'

The "Draconian measures" referred to have only been directed against American pork, and that in view of the fact, seemingly well founded, that the consumption of American pork in the United States, England, Switzerland, and Belgium, where it is thoroughly cooked before eating, very rarely produces consequences injurious to health, and also that investigation showed that the cases of trichinosis occurring in Germany before the prohibition arose from the consumption of native or Hungarian pork in its raw state, and not from the use of American pork. Good medical authority in France sanctions the view that American pork is not dangerous.

However much controversy might be raised over these propositions, there is no room for assumption that the present distressing epidemics are caused by the American articles. It might be worth all the inconvenience of a year's exclusion of our products of this kind for the result to be so clearly demonstrated that the cases of trichinosis which sometimes occur in Germany are unjustly ascribed to American pork. It has been the universal habit here to assign, without inquiry, this origin to trichinosis cases. Thus, the cases occurring at Königsberg (Tilsit) were so accounted, although the inquiries which I caused to be made of the local military and civil authorities controverted that conclusion.

The correspondent of the Daily News falls into the same strain, and holds it

extraordinary that trichinosis should be so prevalent and disastrous after the severe measures taken against American pork, as if such measures were all that

were necessary to insure immunity.

I inclose a dispatch from the infected district, published in the Berliner Tageblatt of the 17th instant, with translation, in which the details given by the correspondent of the Daily News are confirmed. By this dispatch it seems the disease has been developing for some four weeks, and has spread through several villages whose inhabitants are accustomed to eat raw sausage meat. All who have eater pork in this form have died, and many are sick who have eaten probably imperfectly cooked meat and sausages from the infected pigs. The butcher who killed the swine, and the inspector and their families, are sick. There seems to be no decline as yet in the disease, the horror of which is said to surpass conception. The local authorities are taking the expense of medical treatment upon themselves. That it is genuine trichinosis is shown by examining the flesh of the

These facts are interesting as showing that the ordinance of the Empire discriminating against American pork, while admitting Russian, Hungarian, or French pork, was not calculated to accomplish its avowed object, viz, the prevention of disease and death from trichinosis. There is no evidence that American pork is worse than that furnished by other countries, and hence no ground for discrimination against it. The danger comes at least equally from other quarters, viz, from German pork or the pork of the neighboring countries. This is already demonstrated by the facts above given, for American pork can not be accused of being the cause of these present disasters. If this disease is caused by German pork, the claim in Herr Von Eisendecher's note of May 1, 1883, to the honorable Secretary of State is not justified, viz:

"Now, as Germany, by its strict and vigorously enforced legislation, affords the same protection to its people at home against all dangers from German cattle and hogs, it can not possibly treat the foreign producers better than its own."

If the disease comes from foreign hogs, except American, allowed still to be freely imported into Germany, the measure prohibiting our products was not only discriminating against the United States, but ineffectual. In any view the whole subject needs reconsideration by Germany.

I have, etc.,

A. A. SARGENT.

[Inclosure in No. 204.—Extract from Berliner Tageblatt of October 17, 1883.—Translation.]

ERMESLEBEN, NEAR HALBERSTADT.

The symptoms of trichinosis of which we have already made mention first made their appearance about four weeks ago in Ermesleben, where the pig or pigs were About 200 persons lie ill there, of whom 14 have already died. Then followed Nienhagen, a small way station near by, where about 80 persons have been attacked, none of whom have died as yet. Further, the disease appeared in Gröningen, Quenstadt, Schwanstedt, and Wegeleben. In all about 300 persons suffer from it, of whom 17 have died. Throughout the region the habit of eating (raw) chopped pork (so-called sausage meat) predominates, especially among the laboring class. All who have eaten of it in this shape die. But those, too, who have eaten it boiled or as sausages—yes, as is asserted, even as lard—have been severely attacked with the malady, although their cases are not so hopeless. There does not seem to be a decline in the epidemic, and, according to the opinion of the attending doctors. 50 per cent of the infected die. Other reports estimate the mortality at 20 per cent. May the Almighty prevent this, for the horror of this malady surpasses all conception. In one family 4 persons, and in another 7, even, have been attacked. In one family 4 persons died. Even the butcher who sold the

meat, and the inspector of the meat, together with their families, are sick. The former has already lost his mother, and there is little hope for himself. The parish authorities have taken very laudable steps to alleviate the distress. In Ermesleben the local authorities have taken the expenses of medical treatment, etc. upon themselves, and Deesdorf immediately granted 1,000 marks for that purpose. Those that die are all young, vigorous persons, and in most cases fathers or mothers

In a portion taken from a female corpse for dissection, 17 trichinæ, freed from the capsules, were easily discernible. Upon whom the blame falls or whose negligence caused this disaster will probably never appear, since, as already mentioned, the butcher as well as the inspector of the meat, a barber, have both been

attacked by the disease.

No. 104.

Mr. Sargent to Mr. Frelinghuysen.

No. 205.7

LEGATION OF THE UNITED STATES. Berlin, October 22, 1883. (Received November 10.)

Sir. I have the honor to acknowledge the receipt last night of your telegram, reading as follows: [See ante, No. 102.] I have to-day communicated a copy of the above telegram to Mr. W. C. Fox, consul at Brunswick, with instructions to carefully and promptly execute it. I will send his report as soon as it is received. A copy of my letter to him is herewith inclosed. I have, etc.,

A. A. SARGENT.

[Inclosure in No. 205.]

Mr. Sargent to Mr. Fox.

LEGATION OF THE UNITED STATES, Berlin, October 21, 1883.

SIR: Late last night I received a telegram from the honorable Secretary of State, which reads as follows: (See ante, No. 102.) The cases of trichinosis referred to in the above are reported to have developed first about four weeks ago at Ermesleben, near Halberstadt, in your immediate neighborhood, and to have taken formidable dimensions there, so that by various accounts from 14 to 50 persons have already died and 200 persons now lie ill. The disease has also appeared at Gröningen, Quenstadt, Schwanstedt, and Wegeleben, in the same neighborhood, so that in all. it is stated, 300 persons have suffered from it. The Department desires information to be at once furnished (for the use of the commission of inquiry into the general subject of American rearing and packing pork) as to the origin of this disease in the localities in question. Where were the pigs raised which were consumed by the sufferers; in what form was the pork eaten, raw or cooked? In short, all facts obtainable bearing upon the origin of this disease are wished.

As your consular district embraces these localities, you will please make immediate inquiry as to these points and any other bearing on the subject which you may deem useful, as to the extent of the epidemic; for instance, the number of persons affected, the number of deaths, and action of the authorities in view of the emergency, etc. Also, please inform me if any American pork now comes into your district, and if there is any reason for ascribing this visitation to American

pork. I will transmit your report to the Department.

I will ask you to give immediate and personal attention to this matter by making inquiries on the spot of municipal officers, physicians, and others able and willing to inform you. I am aware that you can not take testimony under oath in such cases; but you can undoubtedly gather much and valuable information, and your acquaintance with the German language and public experience peculiarly fit you for this work required by the Department. I have no doubt that the honorable Secretary will allow you for any necessary expenses incurred in executing his order.

I have, etc.,

A. A. SARGENT.

No. 105.

Mr. Sargent to Mr. Frelinghuysen.

[Extract.]

No. 208.]

LEGATION OF THE UNITED STATES. Berlin, October 26, 1883. (Received November 12.)

Sir: I am now able to transmit the able report of Mr. W. C. Fox, consul at Brunswick, made in response to my request of the 21st instant, in obedience to your telegraphic instruction received here on the night of the 20th.

Mr. Fox intelligently followed the directions given to him, and was furnished every facility by the local authorities, whose courtesy toward him was most

marked.

I refer the Department to his inclosed report for a full statement of the origin, nature, and extent of the disease. It may be briefly stated that the fully ascertained cause of the epidemic was the consumption, mostly in an entirely raw and partly in a partially raw condition, of the flesh of three hogs raised in the vicinity, mixed with that of a Hungarian hog. The extraordinary spread of the disease, through five villages in a circuit of 2 miles, occurred because the potato harvest was in progress, and it was customary for the people to eat raw meat and bread in the fields at such times instead of spending time to go to and return from their The inspection is alleged by the inspector and butcher to have been made in accordance with the law, though the record required by law was not properly The inspector was the village barber, the person habitually employed in Germany for such inspections, who passes an examination as to his fitness for the But the three preparations made for microscopic inspection, under the law, are not sufficient to give safe results, as trichinæ are sometimes found only after 30 or 40 trials. The only safeguard of the consumer against the disease is thorough cooking, and this is ample.

The whole number of cases so far is about 438, of which 36 have been fatal and

19 more probably will be fatal.

I learn from another source, outside of this report of Mr. Fox, from an eyewitness who is fully reliable, that the scenes at Ermesleben are distressing in the highest degree. My informant entered one house where the grandmother, father, and son lay dead, and a daughter, about 18 years of age, lay sick. She is the only one of the family left, and may recover. There are about 700 inhabitants in the village, living in about 120 houses. There are 267 sick in 85 houses. Some of the people are in want, but the community is rich, some of the peasants being worth \$200,000 apiece. There is a large kitchen where food is prepared for all the sick, for rich and poor alike.

The sickness is accompanied by extreme exhaustion. Swollen extremities force the patients to remain perfectly still for weeks, unless relieved from suffering by death, which is caused directly by suffocation. These sad scenes lead to several

conclusions:

First. American pork is exonerated from the suspicion of being the cause of this disaster, and its prohibition by Germany upon the theory that it is more harmful than other pork is unadvised. * * *
Second. The inspection laws of Germany are totally inadequate to prevent such

calamities so long as the people indulge the habit, which seems to Americans nau-

seous, of eating pork raw.

Third. This epidemic is a terrible warning to Germany to abstain from eating raw pork. In the language of Professor Hertwieg to the convention of butchers of Berlin, in 1865, "You know what you have to do in your kitchens, and if you do

it properly we have no need of inspection."

The constant danger from native pork eaten in a raw state is shown by the results following the prospect of local rewards given for the detection of trichine. I translate the two following announcements from a recent number of the Halberstädter Intelligenzblatt, published in the infected neighborhood, showing not only that the domestic article is highly dangerous, but that the inspection contemplated by the law is insufficient:

"QUEDLINBURG, October 14.

"A reward of 30 marks of public money has been awarded to Inspector Reler, at Gr. Schierstedt, for the discovery of trichinæ in a hog examined by him.

"The magistrate of Quedlinburg has awarded a reward of 15 marks to the inspector of meat, Julius Yrem, for the discovery of trichinæ in a pig slaughtered on the 29th ultimo."

An article published last spring in a newspaper of Berlin, which is usually supposed to express official ideas, held to the view that the prohibitory decree was proper, because a government must recognize in its acts the tastes of its people; that Germans like to eat pork raw, and hence the fact that well-cooked pork is safe and uncooked pork dangerous does not make any difference; the Government will keep out the American article because it is dangerous in a raw state. The discussion of these events at Ermesleben in the German papers has been quite restricted, and it seems to me there has not been much disposition to draw the natural inferences, viz, that the eating of raw pork of all nationalities should cease. * * *

I have thanked Mr. Fox for his interesting report, and will forward to the Department the official statement of the local authorities to which he alludes as soon as I receive it, and will also have inquiries made as to any other neighbor-

hood in which I may observe the disease stated to be prevalent.

I have, etc.,

A. A. SARGENT.

[Inclosure in No. 208.]

Consul Fox to Mr. Sargent.

United States Consulate, Brunswick, October 25, 1883.

SIR: In compliance with your instructions I visited the villages of Ermesleben and Deesdorf, in this consular district, on October 23, and have now the honor to make the following report upon the trichina epidemic prevailing in that vicinity:

Ermesleben, the place where the disease has taken most formidable dimensions, is situated near the Harz Mountains, about 5 English miles from the city of Halberstadt, in the province of Saxony. It embraces in its complex some of the most fertile soil, and is one of the most prosperous localities in the Prussian Kingdom.

The scourge now raging there has awakened not only the heartfelt sympathy of all, but the liveliest interest in medical circles, and the locality is visited daily by physicians from abroad and others interested in obtaining scientific information in regard to it. It has assumed such proportions that it is absolutely impossible for the resident physicians to attend to all the cases. Under the direction of privy counselor Prof. Dr. Weber, of Halle, Mr. Wagner, a student of medicine, is on the spot ministering to the wants of the sick and taking notes for the purpose of future publication. To this gentleman, as well as to Mr. Pastor Greiling, who is also unceasing in his attentions to the sufferers, and to Mr. Amtmann Heine, magistrate of the village, I am indebted for many courtesies shown, as well as for information in regard to and opportunity to personally see many of the patients. The sickness was first noticed in Ermesleben about September 16. Several persons were taken suddenly ill with nausea and acute diarrhea. Medical aid was obtained forthwith, and it was first thought that a cholera epidemic had broken out (cholera nostras), until other symptoms—swelling of the eye, face, and extremities, combined with high fever—showed that it was undoubtedly trichinosis. The disease spread rapidly, and up to date 433 cases have been recorded; 36 have been fatal, and upward of 19 will undoubtedly prove so, as follows:

Places.	Cases.	Deaths.	Probably die.
Ermesleben Nienhagen Gröningen (Kloster) Deesdorf	267 80 10 40	27 None. 2 7	14 ? ? 5
	367	36	19

In Nienhagen and Gröningen the cases are much lighter than in Ermesleben, and in all probability the patients will all recover. Several cases are reported to exist in Wegeleben and Köthhof, though not over five in all. All of the infected villages lie within a circuit of about 2 English miles. I made Ermesleben and Deesdorf the basis of my investigation, and was informed by the gentlemen with whom I conversed upon the subject that I could learn nothing of further interest in the other places, as all the parties competent to give me information were in Ermesleben at the time. When it became apparent that the disease was trichinosis the local authorities immediately instituted a thorough investigation in the

endeavor to locate its origin. It appears that on or about the 12th and 14th of September four swine were butchered, the meat of all was mixed and sold to the inhabitants of the infected districts. Three of the pigs were the so-called landschwein (common kind reared in the vicinity), the other was a Baguner (Hun-

garian).

The fact has been established beyond all dispute that in all the cases the patients had eaten the ment raw, either in the form of klumpfleisch (raw chopped meat) or in the form of rothwurst (blood sausage). This latter article is said to be cooked, but (my informant, Mr. Pastor Greiling, assured me) so slightly as to have no effect whatever upon the trichina germs. The custom of eating raw swine's meat is prevalent in the neighborhood, and the first trichina epidemic occurred in 1855, though it was not so disastrous as the one now raging. The inhabitants claimed then, as now, that the swine were not properly inspected. The country folk have the idea that the examination, when conducted according to law, gives them ample security. Dr. Wagner maintained to me, however, that this is an erroneous supposition, and that the present law is very defective. The law requires the inspector to make at least three preparations for microscopic examination, and as a rule he rarely makes more. It is asserted, however, that experiment has proved that the trichinæ are sometimes found only after the thirtieth or fortieth trial, respectively. In 1865 Professor Hertwieg, in an address delivered before a convention of Berlin butchers, said, "You know what you have to do in your kitchen, and if you do it properly we have no need for inspection.

I think that the whole case is here stated in a nutshell, and Ermesleben affords additional evidence of the truth of the statement. Mr. Amtmann Heine, leaseholder of the Ermesleben estates, together with his family, partook of the meat in cooked form. None of them have suffered in the least. One of the kitchen maids. however, simply tasted of the raw meat and is ill. The village tavern keeper and his family also ate of the cooked meat and are well and hearty. His little daughter ate some of it raw at a neighbor's home and became slightly infected. The sworn official inspector, who is, by the way, the village barber in Ermesleben, and the butcher have been held to answer, and in the preliminary examination the charges of manslaughter, infliction of bodily injury, and negligence in performance of

duty have been preferred.

Under the law the butcher is required to notify the inspector when he has slaughtered a pig. The inspection is then made, which consists simply in making preparations for microscopic examination, as before stated; the inspector then certifies to the facts as they may appear to him. If he declares the animal to be clean, its meat can be sold for consumption. The butcher as well as the inspector is required to keep a list of all swine slaughtered and inspected. This list is at all times open to the revision of the authorities. In the case in question it appears that this list was not kept, or, if kept at all, so imperfectly as to be wholly worthless The delinquents made an effort to put it in order, were detected, and They nevertheless earnestly maintained that the inspecfinally acknowledged it. The parties as well as their families are all sick: tion was made according to law. several members have died, and others are at the point of death. A circumstance which in a measure explains how it happened that the epidemic assumed such formidable proportions in Ermesleben is the fact that it was the time of the potato harvest, and the whole village, young and old, men, women, and children, were at work in the potato fields. At such times it is the custom not to cook a midday meal, but in order to save the time which would otherwise be consumed in going and coming, to take a simple repast composed of raw meat and bread. a natural consequence the sickness has caused great consternation in the community, and the people have become doubly careful. As a result, according to the Halberstädter Intelligenzblatt, several infected swine have been discovered. Mr. Meinecke, a veterinary surgeon in Derenburg, succeeded in finding one, and in his report makes the following suggestions:

1. In order to secure thorough inspection to offer a high premium for every

infected hog found.

Not to eat raw meat.
 To adopt measures to prevent the swine becoming infected.

In conclusion it is hardly necessary for me to mention that the local authorities as well as private charity are doing all that human power can do to relieve the present distress. I can not, however, refrain in expressing my sincere thanks to Pastor Greiling and Mr. Wagner to refer to their untiring energy and self-sacrifice of personal interests in the work which they have on hand. Mr. Wagner is preparing an exhaustive report, which he has promised to send me when completed, and I hope to be able to transmit same to you at an early day. While we certainly deeply sympathize with this sadly afflicted community, it must never-

theless be the source of peculiar satisfaction to our countrymen to know that the malady was not caused by American meats. In fact, it has not been even inti-mated that such a thing was possible, and there is no evidence that American pork has ever been used there at all.

I have, etc.,

WILLIAM C. FOX. United States Consul.

No. 106.

Mr. Sargent to Mr. Frelinghuysen.

No. 213.7 LEGATION OF THE UNITED STATES, Berlin, November 5, 1883. (Received November 20.)

SIR: Referring to previous correspondence on the subject of trichinosis, and in particular to my dispatch No. 208, of October 28 last, with which I inclosed the report of Consul Fox on the outbreak of the disease at Ermesleben and other places in the vicinity, I have the honor to communicate in translation an announcement reporting the progress of the disease at those places, which I take from the National Gazette of this city of the 1st instant:

"In the last few days two more persons have died of the trichinosis in the neighboring village of Ermesleben. This makes the number of persons who have died there 30 and in the vicinity 9; altogether 39. Unfortunately 270 persons are still prostrated by the terrible disease, among them several who are severely ill, and whose death is daily expected. As the physicians have recommended as the best diet strong bouillon and wine, many of the sufferers being unable to swallow solid nourishment on account of the swellen condition of their throats, the community continues to cook and provide for all in common. Some 60 pounds of good sound beef are required daily in order to comply with the directions of the physicians.

"The assistance required from and supported by the community has thus far amounted to about 900 marks weekly. A writer to the Magdeburg Gazette says that this community, which is not without means and which enjoys the enviable position of having no local poor to provide for, has for some five weeks and until now been able to carry on unaided this work of love, but that it now needs the

assistance of charitable people."

It will be seen from the above that the number of the sufferers and also the number of deaths from the disease have increased since the date of the report of Consul Fox, 267 to 270 and from 36 to 39, respectively, while several more fatal

I have, etc.,

terminations are anticipated.

Another outbreak of the trichinosis, though of a far milder character, has occurred at Zechin and neighboring villages situated in the vicinity of Frankforton-the-Oder, in Prussia. A Berlin sheet, the Neueste Nachrichten, of the 25th

ultimo, makes the following announcement:

"The trichinosis has lately assumed most serious dimensions in spite of all legal and administrative measures. At Zechin, in the circuit Letschin, the disease has appeared in thirty families. In Letschin two persons have been attacked; at Vossberg eight. Other persons are reported as attacked at Sydowswiese, Friedrichsan, Golzow, and also in the so-called Bush villages (Gericksberg, Lemaunshösel, Bayersberg) and elsewhere. It is hard to say where the outbreak may end, since the supposed diseased meat, worked up into garlic sausages, has been disseminated far and wide. The persons attacked at Zechin assert that they bought and ate about two weeks ago pigs' flesh from a dealer at that place. This dealer and his son are among the persons attacked."

Within a brief period after the above publication it was reported that the dis-

ease at Zechin was of a mild type, and that it was believed by the physicians that

all the patients would recover; also that the investigation had not disclosed the source of the meat causing the disease, and that no facts had appeared fastening the sale of the diseased meat upon the dealer at Zechin.

I shall carefully watch for any report of results that may be reached in the search for the origin of this outbreak, and cause an investigation to be made on the spot, if the expenditure seems warranted, and report thereon. In the meantime it would seem safe to assume that the blame can not attach to American pork so long after prohibition of its importation into the country. A. A. SARGENT.

No. 107.

Mr. Sargent to Mr. Frelinghuysen,

No. 214.7

LEGATION OF THE UNITED STATES. Berlin, November 12, 1883. (Received November 26.)

SIR: Referring to the subject of trichinosis at Ermesleben, I have the honor to transmit the latest news from that place of the progress and conditions of the disease, in the following translated excerpts from the local papers:

"HALBERSTADT.—Yesterday and day before there were 5 more deaths from trichinosis in the neighboring village of Ermesleben, so that the total number of trichinosis in the neighboring village of Ermesleben, so that the total number of persons of every age who have succumbed to this terrible disease is 41. In the surrounding villages 9 have died to date. The distress is daily increasing. It is, however, gratifying that the call for assistance is meeting with such hearty response. The collection opened by Dölle's newspaper of this place already shows receipts up to nearly 600 marks. It seems striking that just at this time trichinæ should be so frequently discovered. Among others, Mr. Meinicke, veterinary surgeon in our neighboring town of Derenburg, Meat Inspector Plettner, of Wernigerode, etc., have lately found swine infected with trichinæ. Notwithstanding the fact that the discovery of trichinæ in swine is of so frequent occurrence, the the fact that the discovery of trichinæ in swine is of so frequent occurrence, the insurance, which costs from 30 pfennige to 50 pfennige per pig, is generally neglected. We have positive information that a whole family in Gröningen have been taken sick with trichinosis—happily not dangerously—from eating of pig which they had themselves s'aughtered and inspected. A second inspection after

The fact is important that a family has been stricked down after eating pork which had been especially killed and inspected by itself, as the opinion prevails

that such special inspection is a sure guarantee against trichinosis.

The same paper, of the 7th instant, has the following:

"HALBERSTADT, November 5. - To-day Mr. E. Bodenstein, meat inspector of this city, again discovered trichina in a pig slaughtered by a local butcher. informed by experts that the triching are found to exist chiefly in the lights and diaphragm of infected swine, but that the examination of these parts is generally omitted. Trichinæ are found in almost equal numbers in the diaphragm and the so-called tenderloin; in less numbers, however, in the hams. It is nevertheless generally believed, and the idea is prevalent, that the chief seat of the trichinæ is the hard muscles and hams. A thorough examination by expert meat inspectors is absolutely necessary."

It will be observed that inspection, so often fallacious, is still recommended.

instead of cooking or even salting, which probably destroys the germs.

By an item in the Berlin Tageblatt of yesterday I learn that during the past month of October there were discovered at the municipal meat inspector's office at the central slaughterhouse, at Berlin, where all cattle are slaughtered, 22 cases of trichinæ and 127 measly swine. These were seized by the police and taken to the fiscal rendering house for destruction, or for other than food purposes.

I have, etc.,

A. A. SARGENT.

No. 108.

Mr. Frelinghuysen to Mr. Sargent.

No. 169.7

DEPARTMENT OF STATE, Washington, November 27, 1883.

SIR: Acknowledging the receipt of your dispatch No. 208, of the 26th ultimo, I have to thank you for the very instructive report which you obtained with commendable promptness for the use of this Department in relation to the outbreak of trichinosis at Ermesleben, in Germany.

I am, etc.,

FREDK, T. FRELINGHUYSEN.

No. 109.

Mr. Sargent to Mr. Frelinghuysen.

No. 218.7

LEGATION OF THE UNITED STATES, Berlin, December 1, 1883. (Received December 17.)

Sir: I have the honor to inform you that, in consequence of notices which appeared in the daily papers that an outbreak of trichinosis had occurred at Thorn,

a city in West Prussia, of 70,000 inhabitants, I wrote to Mr. Peter Collas, our consular agent at Danzig, to furnish me with such particulars as he might be able to obtain in regard to the reported epidemic.

The following is one of the notices referred to:

"Thorn, November 20.—It is confirmed that about fifty persons have been attacked by trichinosis here. Up to Saturday twenty-one cases were authenticated by the district physician, and since then many new cases have been reported to the police. A meat shop in which infected sausages were discovered was closed on Saturday, but after an inspection of the remaining wares was again opened. The owner of the shop had received about 230 pounds of meat from Culmsee, through which the dreadful disease seems to have been brought hither, as previous to this several persons had been attacked by trichinosis at Culmsee. By order of the commander of this place the soldiers of the garrison are forbidden to purchase sausages or raw ham in the meat shops here.

I herewith inclose a copy of the reply received from Mr. Collas, with a copy and translation of the letter from the editor of the Thorn newspaper from whom his information was received, which confirms the above report. It seems that the pork causing the mischief is of native production.

I have, etc.. A. A. SARGENT.

[Inclosure 1 in No. 218.]

Mr. Collas to Mr. Sargent.

United States Consular Agency, Danzig, November 30, 1883.

Sir: In consequence of your request I at once made inquiries respecting the trichinosis at Thorn, where I find that about fifty cases, more or less serious, have occurred, arising from the enjoyment of sausages manufactured from pork sent hither from Culmsee, a place about 20 kilometers distant, the meat being native p oduction. It is not quite clear whether the same was examined in the usual manner before going into consumption, but this is under investigation at present by the official authorities, and about which I shall endeavor to obtain the result and information later on.

Inclosed the note from which the foregoing is derived.

I remain, etc.,

PETER COLLAS. United States Consular Agent.

[Inclosure 2 in No. 218.—Translation.]

Mr. Queschede to Mr. Guldzniski,

THORN, November 23, 1883.

In reply to your esteemed inquiry of yesterday, we respectfully inform you that, according to the researches made by us, about fifty cases of trichinosis have occurred. The disease has been caused by the consumption of sausage which was made from inland pork. This pork is said to have been brought here from Culmsee, but the dealer in question denies this. The investigation already instituted by the authorities will develop the fact. There has as yet been no question made regarding foreign pork.

Respectfully.

GUSTAV QUESCHEDE, Editor Thorner Ostdeutsche Zeitung.

No. 110.

Mr. Frelinghuysen to Mr. Sargent.

No. 177.]

DEPARTMENT OF STATE, Washington, December 26, 1883.

SIR: Your dispatch No. 218 of the 1st instant, concerning the outbreak of trichinosis at Thorn, in West Prussia, has been read with interest.

Adding that the Department approves your course in promptly instituting

inquiries into the matter,

I am, etc.,

FREDK. T. FRELINGHUYSEN.

GREECE.

No. 111.

Mr. Schuyler to Mr. Frelinghuysen.

No. 8.7

LEGATION OF THE UNITED STATES, Athens, February 10, 1883. (Received March 5.)

Sir: I received a few days ago a circular of the minister of the interior, dated January 23, 1883, addressed to the provincial authorities of the Kingdom and to the bureau of health of Piræus, with reference to the importation of cattle from various eastern countries. The second paragraph, however, of the circular renewed the prohibition against the importation of hams, sausages, and lard coming from America, either directly or indirectly. I inclose a copy and translation of this circular.

On his first reception day I inquired of Mr. Tricoupis whether the Government had any additional reasons for prohibiting the importation of hams, etc., from the United States, adding that I thought that the results of the investigations undertaken by the order of our Government had sufficiently proved that there was no danger to be expected from such importations. Mr. Tricoupis said that he was ignorant of the causes which had led to the insertion of the paragraph referred to, as, in his capacity of minister of the interior, he had simply published a circular prepared by the sanitary authorities of his department; that if he had noticed the passage he would have inquired, because he remembered that Mr. Botassi, the Greek consul-general at New York, had made a report in which he stated that the reports about disease of swine, etc., in America had been greatly exaggerated. He promised me, therefore, to make further inquiries, and, without binding himself, gave me to understand that if the result of his inquiries proved satisfactory, the prohibition would be withdrawn.

I have, etc.,

EUGENE SCHUYLER.

[Inclosure in No. 8.—Translation.]

CIRCULAR PROHIBITING IMPORTATION OF AMERICAN PORK,

ATHENS, January 11, 1883.

The Ministry of the Interior to the Nomarchs and Eparchs of the Kingdom and to the Bureau of Health of Pirœus.

According to the orders which you have already received, cows and buffaloes coming from Russia, Asia Minor, Syria, Egypt, Thrace, Valona, and Rahova in Roumania, on account of the epizooty raging in these countries, are only allowed to be imported by way of Syra, Corfu, and Piræus, and after a previous quarantine. With regard to raw cow and buffalo hides of the same origin, their importation is only permitted by Syra and Corfu, and with all the prescribed sanitary precautions, while the importation of other products of these animals, such as bones, intestines, etc., is absolutely forbidden.

By the present circular we renew to you these orders, and also those concerning the prohibition to import into Greece, hams, sausages, lard, etc., coming directly or indirectly from America, and we order you to see that these orders are strictly executed by the sanitary authorities of your jurisdiction.

On the recommendation of the medical council, and in view of the epizooty

On the recommendation of the medical council, and in view of the epizooty existing in Thrace and at Valona, we also forbid the importation of cows and buffaloes coming from any part of Turkey in Europe, by any other way than Syra, Corfu, and Piræus, and until after a previous quarantine of nine days, including the days of the passage. We also forbid the importation into Greece of raw cow hides of the same origin, except by way of Syra or Corfu, and after the observance of the sanitary measures prescribed by the regulations. The importation of dried and salted cow hides is not prohibited.

You will communicate the contents of this circular to the sanitary authorities of your jurisdiction.

The minister:

No. 112.

Mr. Frelinghuysen to Mr. Schuyler.

No. 20.7

DEPARTMENT OF STATE, Washington, March 9, 1883.

SIR: I have to acknowledge your No. 8 (Greek diplomatic series), of the 10th ultimo, in regard to the renewal of the prohibition against American pork, in which you state that you had a conversation with the minister of foreign affairs. in which he said that inquiry would be made in the matter. It is trusted that the hopes you express of the withdrawal of the obnoxious provision will be realized.

I am, etc.,

FRED'K T. FRELINGHUYSEN.

No. 110.

Mr. Schuyler to Mr. Frelinghuysen.

No. 29.1

LEGATION OF THE UNITED STATES, Athens, May 17, 1883. (Received June 4.)

Sir: Referring to my dispatch No. 8, dated February 10, 1883, on the subject of the prohibition of the importation of American pork into Greece, I have the honor to inform you that I yesterday had a conversation on the subject with Mr. Tricoupis, the president of the council of ministers. He stated to me that in consequence of my previous representation a circular had been issued to all the representatives of the Greek Government in Europe requesting them to ascertain exactly the action of the Government in Europe requesting them to ascertain exactly the action of the Governments to which they are accredited on the subject, and that a telegram had also been sent to the consul-general of Greece at New York requesting an exact report on the health of American swine and the quality of American pork and lard. He thought that answers would soon be received and that within a month the Hellenic Government would be sufficiently well informed to be able to take action in the matter.

I have, etc.,

EUGENE SCHUYLER.

No. 114.

Mr. Davis to Mr. Schuyler.

[Extract.]

No. 33.]

DEPARTMENT OF STATE, Washington, May 28, 1883.

SIR; In a dispatch from Berlin, dated the 4th instant, Mr. Sargent remarks as follows:

"The London Times correspondent on the 1st instant says:
"Imitating the action of the German Federal Council, the Greek Government has, from sanitary considerations, forbidden the importation of all sorts of American pig flesh."

Information of this action of the Government of Greece was duly conveyed in your No. 8 (Greek diplomatic series), of February 10 last, and of your conversation at the time with the minister of foreign affairs.

Aside from the assurance of Mr. Botassi, the Greek consul-general at New York, that the reports about disease of swine, etc., in America had been greatly exaggerated, a modification of the circular might well be asked upon the consideration

which the subject has received in other directions.

Thorough scientific scrutiny and extensive observation at different periods and by various earnest and competent individuals have failed to establish that American pork is oftener or more fully impregnated than that coming from other regions or that the serious maladies which the consumption of the diseased hog flesh may occasion are, as a fact, prevalent in any country, and when is considered the immense pork products of this country which have annually been distributed and consumed, this conspicuous freedom from the dreaded disease should itself relieve

the United States from these unjust and unwarrantable charges.

This Government will yield to no other in the sincere intention of treating the public health as of paramount concern, and it would be the first to sacrifice any commercial interest fairly shown to be detrimental to the general individual comfort. In this spirit the Department, upon the first agitation of the subject, dispatched a skilled officer to the principal raising and packing districts here, to obtain, for its guidance, a careful and candid investigation of the subject. His conclusions, which you will find in the inclosed pamphlets. strongly developed the purity of this class of exports and confirmed the previous justifiable opinion that all contrary assertions were exaggerated and without sufficient foundation.

The further in spections which have occurred abroad have all tended to the same conclusion, and have exhibited a unanimity in this, that pork can safely be used if cooked, even when in rare instances containing trichine, and that its noxious effects have only been observed among those who consume it in the raw state. As to the cholera, which has served to create such marked apprehension abroad, it is well ascertained that this disease attacks mostly the young swine here known as "pigs"—whose flesh can never be utilized by the packers, and that whenever its victim is a mature swine, here known as "hog." the decomposition is so speedy as to render it impossible to treat it for any commercial use

In the face of these considerations this Government does not expect a persistent adherence to the prohibitory policy which has already injured our trade and depreciated our products, and it can not observe without earnest protest the announcement, at this late stage, of the determination of any government to enter upon the policy which has so unjustly affected a legitimate and valuable

It is not to be overlooked that, so far as Greece is concerned, the direct importation, at least, of American pork is very insignificant; that it is not understood that a single instance of disease from its use has been noted there, and therefore the present acceptance by that Government of the policy which has already borne hard upon the commerce of our citizens with other countries would groundlessly throw the weight of her influence in favor of a harsh and unjust discrimination against American commerce.

It is hoped that you will take early occasion to endeavor to obtain from the minister a recession of the objectionable restrictions, informing him of the uncordial attitude to an American interest which the present position of Greece

necessarily presents.

I am, etc.,

JOHN DAVIS. Acting Secretary.

No. 115.

Mr. Schuyler to Mr. Frelinghuysen,

No. 31.

LEGATION OF THE UNITED STATES, Athens, July 25, 1883. (Received August 18.)

SIR: I have the honor to acknowledge the receipt of your dispatch No. 33, dated May 28, with reference to the prohibition by the Greek Government of American pork. I have not failed to give this subject my earnest attention, but I have not yet obtained the exact replies to the circular sent out by the Greek Government, as mentioned in my dispatch No. 29, dated May 17.

I do not despair of obtaining a modification of the order in question.

It must be observed, however, that southern peoples are very susceptible to anything that concerns public health, and although almost no pork is imported into Greece from any country, yet the fact that such importation has been prohibited or restricted in other countries would be a sufficient reason in the minds of many for a similar restriction here without the necessity of suggestions from outside to that effect. This susceptibility may be particulary observed now, when a quarantine of twenty-one days has been imposed on account of the cholera in Egypt. As the quarantine in Turkey on similar vessels is only ten days, it is proposed to impose a quarantine of eleven days on all vessels coming from Constantinople.

In the mean time I respectfully ask you to inform me briefly as to the status of

¹See House Ex. Doc. 209, Forty-seventh Congress, first session, p. 179.

American pork in all the other countries of Europe, whether freely admitted, with restrictions, or entirely prohibited. I have some general knowledge of the subject, but do not know positively the present state of the case, except as regards Germany and Austria.

I shall also be glad to receive several more copies of the pamphlet entitled "American Pork," inclosed in your No. 33. If there is a translation in French it

would be more useful for distribution.

As concerns the prohibition of Pork in Roumania, of which I informed you by my dispatch No. 86, dated September 22, 1881, the case is different, and I do not consider it possible to obtain any modification whatever. The fact is that the sanitary and veterinary regulations between Austria-Hungary and Roumania are very severe and are enforced on the part of the Hungarian Government with great vigor on very slight pretexts. Roumania exports pigs and pork, and does not generally import them, and unless it maintain the restrictions against the pig products of other countries its exportation to Austria-Hungary will be forbidden.

I have, etc.,

EUGENE SCHUYLER.

No. 116.

Mr. Frelinghuysen to Mr. Schuyler.

No. 5.7

Department of State, Washington, September 18, 1883.

Sir: Acknowledging the receipt of your No. 31 (Greek diplomatic series) of the 25th July, I have to say that several copies of the pamphlet to which you refer, viz, "American Pork, etc., 1881." published by this Department, will be sent you at once under separate cover. This pamphlet was translated into French in 1881, at the American legation, Paris, and I trust that on written application to Minister

Morton you may be able to procure a copy.

In response to your query as to the present status of the admission of American pork at European ports, I refer you to House Executive Document No. 209, Forty-seventh Congress, first session, and have to add that according to No. 333 (April 13, 1883) of Mr. Morton, the French exclusion of American pork—owing to the pressure of certain French packers, evidently—is still maintained. According to No. 41 of Mr. Heap (August 10, 1881), Turkey was at that time still disinclined to remove the prohibition there declared, and it seems that we have no later advices from Constantinople on the subject. A like attitude was maintained by Portugal as late as July 25, 1881, since which period the Department appears to be without

further information in this regard.

The attitude of Switzerland, as respects the introduction there of our pork product, is no less intelligent than that of Belgium. (See pamphlet.) The latest report on the subject seems to be contained in dispatch No. 420 of Mr. Fish, dated July 15, 1881. It appears by No. 40 of Mr. Foster, of July 23 last, that Spain has not prohibited the importation of American pork, as reported, but has only ordered inspection. It is appearent from dispatch No. 106, of April 30, 1881, of our minister at Stockholm, and from No. 15, of April 28 last, of our diplomatic representative at Copenhagen, that our pork trade with Denmark and with Sweden and Norway will not easily be interrupted, and it is, doubtless, safe to say that our trade in pork with countries of Europe, aside from those named above (some of which exclude our pork and some of which do not) and Roumania, will continue as heretofore.

I am, etc.,

FRED'K. T. FRELINGHUYSEN.

No. 117.

Mr. Schuyler to Mr. Frelinghuysen.

Extract.

No. 42.] LEGATION OF THE UNITED STATES,
Athens, October 19, 1883. (Received November 7.)

Sir: I have the honor to acknowledge the receipt of your dispatch No. 5, dated September 18, 1883, relative to the present status of the admission of American pork at European ports, as also of nine copies of the pamphlet on American pork,

six copies of a French translation of the same through the American legation at Paris, and a copy of House Executive Document No. 209, Forty-seventh Congress, first session.

Referring to my dispatches No. 8, dated February 10, No. 29, dated May 7, and

No. 31, dated July 25, I have further to report my action on the subject.

About April 20, after Mr. Tricoupis had given up the foreign office and Mr. Contostavlo had been appointed minister of foreign affairs, I received a circular on the importation of pork, dated April 7-19, of which I inclose a copy and a translation. I immediately went to see Mr. Contostavlo, and expressed my regret that an additional circular should be issued when the question of the prohibition of pork was under discussion between the two Governments in consequence of the circular of January 11. He professed his entire ignorance of the matter, as he had just entered office, and promised inquiry.

As the result of several consultations with the prime minister, the minister of foreign affairs, and the minister of the interior, the question was twice sent back to the medical council, and on each occasion this body, composed of three physicians practicing in Athens, at the head of which is Dr. Soutsos, the chief medical officer of the army, refused to rescind the action which it had already taken. reason given was that the importation of pork had been prohibited in France, and as a southern people like the Greek was especially susceptible to anything which bore upon the health of the population, the medical council had considered it nec-

essary to follow this precedent.

When the medical council had twice refused to revise their action, I considered it my duty to bring to the notice of the authorities the fact that their action in the case was contrary to the provisions of Article VIII of our treaty with Greece of 1837. Mr. Contostavlo said offhand, that sanitary considerations took precedence of all others. I replied that this could only be the case where they were mentioned in the treaty; that there was often a provision in treaties that prohibitions applying to a single country might be made where sanitary measures warranted it; but that without such a provision I could not admit its propriety, especially as in the treaty of 1837, the article about quarantine (Article XV) showed that sanitary questions had been considered by the negotiators. * * * *

After receiving your dispatch. No. 5, dated September 18, I addressed to Mr. Contostavlo a note on the subject, dated October 17, a copy of which I herewith inclose, marked 3, and of which I trust that you will approve.

I have, etc.,

EUGENE SCHUYLER.

[Inclosure 1 in No. 42.—Translation.]

Circular of the Minister of Foreign Affairs.

MINISTRY OF FOREIGN AFFAIRS. Athens, April 7-19, 1883.

The minister of foreign affairs has the honor to inform the legation of the United States of America that, upon the advice of the medical council of Athens, the department of the interior has just forbidden the import into Greece of hams, sausages, lard, and other pork products coming from America, because of the trichinosis with which pigs in that country are attacked.

The import of similar products coming from other countries will only be allowed on a certificate from the sanitary authorities of the country certified to by the competent Hellenic consul, stating that the above malady does not exist in the country from which these products come.

Mr. Contostavlo has, etc.

[Inclosure 2 in No. 42.]

Mr. Schuyler to Mr. Contostavlo.

LEGATION OF THE UNITED STATES, Athens, October 5-17, 1883.

Mr. MINISTER: After the conversations which I had the honor to have with your excellency on the subject of the prohibition by the Hellenic Government of hams. sausages, lard, and other products of pork inported from the United States, I had hoped that the medical council would revise its decision. I thank you sincerely

for having on two different occasions called the attention of the medical council to this subject, and I greatly regret that it has seen fit to maintain its former

decision.

The council has apparently not taken into consideration the statements with regard to the manufacture of pork and proving the absence of disease in the United States, as set forth in the official report, of which I had the honor to give you a copy, and of which I now inclose three copies in a French translation. It would appear, too, from what your excellency told me, that the medical council has not examined this question for itself, nor has even ever seen and inspected pork products of American origin, but has based its decision upon the action of certain other governments, which, in order to encourage the production of salt pork at home, have, under the pretext of sanitary measures, prohibited its importation from the United States. As you are aware, Mr. Minister, not all governments have taken the same course of action, and I may cite especially Great Britain and Belgium, in which countries American pork is largely consumed without injurious effects upon the health of the population. This deference on the part of the medical council to the action of certain other governments is the more astonishing, as I am informed that the Hellenic consul-general at New York has officially reported that the accounts of disease among American hogs have been greatly exaggerated, yet no consideration seems to be given to his statements, and American pork is absolutely prohibited, while pork is allowed to be imported from other countries on the consul's certificate.

The medical council has apparently overlooked the fact that the difference of treatment which it establishes for the importation of pork is in direct contravention of Article VIII of the treaty between the United States and Greece of December 10-22, 1837. This article provides that there shall not be established in Greece on the products of the soil or of the industry of the United States any prohibition or restriction of importation unless such prohibition or restriction be also established upon articles of like nature coming from other countries.

As I am sure that His Majesty's Government has no intention of even seeming in any way to act contrary to the provisions of the treaty, I have no doubt that your excellency will at once call the attention of the medical council to this point, and provide that the pork products of the United States receive the same treatment as similar products of other countries.

I seize, etc.,

EUGENE SCHUYLER.

No. 118.

Mr. Schuyler to Mr. Frelinghuysen.

No. 52.

LEGATION OF THE UNITED STATES, Athens, December 8, 1883. (Received December 27.)

SIR: Referring to my dispatch No. 42, dated October 19, on the subject of the prohibition of American pork in Greece, I have the honor to inclose herewith a copy and translation of a note I have just received from the minister of foreign affairs, which promises a new examination of the affair. The reference to information asked for at Berlin is probably called out by the fact that various statements have recently been published in the Greek newspapers about an outbreak of trichinosis in Germany.

I have, etc.,

EUGENE SCHUYLER.

[Inclosure in No. 52.—Translation.]

Mr. Contastavlo to Mr. Schuyler.

MINISTRY OF FOREIGN AFFAIRS. Athens, November 23—December 5, 1883.

MR. MINISTER: The department of the interior, whose attention I hastened to draw to your note of October 5-17, respecting the prohibition of the importation of American pork into Greece, has just informed me that before revising the dispositions already made on this subject on the advice of the medical council at Athens, it required new and fuller information, which it has desired me to ask of our consul-general at New York and of the King's legation at Berlin.

I have just asked for this information, and I will not fail to duly communicate to you the decision which the ministry of the interior may think proper to make on the subject, as soon as this information has been received.

Please accept, etc.,

CONTASTAVLO.

No. 119.

Mr. Frelinghuysen to Mr. Schuyler.

No. 48.1

DEPARTMENT OF STATE, Washington, December 19, 1883.

SIR: I have to acknowledge the receipt of your Nos. 46 to 49 (Greek diplomatic series).

Approving your course touching the question of restriction placed on the introduction of American pork at the ports of Greece, as set forth in your No. 42,

I am, etc.,

FRED'K T. FRELINGHUYSEN.

THE NETHERLANDS.

No. 120.

Mr. Eckstein to Mr. Davis.

No. 261.1

UNITED STATES CONSULATE,
Amsterdam, January 11, 1883. (Received January 27.)

Sir: I have the honor herewith to inclose a translation of certain extracts from a report made to the minister of the interior of the Netherlands, of an investigation as to the occurrence of triching in pork imported from the United States.

I am, etc.,

D. ECKSTEIN, United States Consul.

[Inclosure in No. 261.]

AMERICAN PORK IN HOLLAND.

As the agitation in Europe respecting American pork has not yet subsided, and shows even far greater vitality than trichina ever did, and as it appears that even Germany is about to be allied to France in making war upon the American hog product by prohibiting its importation, I concluded to bring to your knowledge what recently took place in this country, with reference to this matter.

By the order and under the supervision of the minister of the interior an investigation was made as to the occurrence of trichinæ in pork imported from the

United States.

The investigators made a report on the subject to the Government, which was published in the Staats Courant (official journal) in November last, but it did not

come under my notice until a few days ago.

I should have liked to have furnished the Department with a translated copy of the entire report, but as it is very lengthy, and I can not manage to get it properly translated within any reasonable time, I subjoin hereto only the introductory remarks, the result of certain experiments made, and the conclusions reached by the investigators, viz:

"Acting upon a suggestion made by the board of inspectors for the sanitary supervision of the State to institute an inquiry on an extensive scale as to the occurrence of trichine in American pork, and as to the danger thereby incurred, the minister for the home department had, in the latter end of the year 1881, instructed the sanitary inspector for the province of South Holland to suggest in what manner such an inquiry might be held as to the pork imported at Rotterdam from America.

"The mode of inquiry accordingly proposed by the latter met with the approval of the minister, and it was thereupon determined that the investigation was to be held under the supervision of the undersigned, by a few persons qual fied for that purpose, who had offered their services, and who were to pursue their labors

according to rules fixed uniformly for all.

"These investigators were Dr. F. I. Dupont, who had moreover taken upon himself to conduct the whole of the inquiry at Rotterdam; Dr. W. Nolen, Dr. H. I. Feth, professor of natural history at the higher burgher school in Rotterdam; Mr. W. A. L. Legebeke, municipal apothecary, and three young ladies (one of whom has a diploma entitling her to teach natural history at middle-class schools), who have given most satisfactory proofs of their ability in using the microscope and in detecting trichinæ.

"In order to have sufficient certainty that the investigation of all the samples would be effected according to the same rules, full instructions were framed for the guidance of the investigators, with which they all bound themselves to comply.'

Succeeding the above preliminary remarks comes a recital of the rules in accordance with which the inspections had to be and were made, and a full description

of the labor performed by the investigators.

The investigations continued over a period of several months, during which eighteen hundred samples of American pork, bacon, and ham were thoroughly and closely examined and inspected, resulting in the discovery of trichinæ in thirty-three of the samples.

The report then closes as follows:

"The proofs that were taken have led to the following results, viz:

"With boiled pork, containing trichinæ, were fed one young pig and two rats,

all three with negative results.

"With raw American pork, containing trichine, taken from pieces sent to the investigators, were fed two young pigs, one young rabbit, and four dogs of about two years old. A careful examination led to the conclusion that all these animals, killed at various periods, did not suffer, or had not suffered in any way from trichinous disease.

"Although the investigations and tests in a matter of this nature can never be sufficiently numerous to give claim to a scientific infallible conclusion, yet we consider that from the inquiry that has been held we may safely draw the follow-

ing conclusions:

"Among the pieces of American pork there are many that are more or less infected with trichinæ. Nearly 2 per cent of the pieces examined were trichinous.

"Notwithstanding the extensive consumption of American trichinous pork in the Netherlands, and more especially at Rotterdam, the trichinous disease has hitherto not been detected there. More than 6,000,000 kilograms of pork were imported from America in 1881 at Rotterdam alone.

"It is possible that the habit of the Dutch people of always either boiling or roasting the said meat may greatly contribute to this result. Yet it is probably not always boiled or roasted so long as to secure that the trichinæ in the innermost parts of a large piece are infallibly killed.

"Proofs taken with animals by feeding them with boiled and raw American trichinous pork have shown that it was eaten by them without any injurious

"We have therefore every reason to presume that the strong pickling and smoking of the said meat has such an influence on the life of the trichinæ that during the many weeks or months that elapse between the slaughtering of the trichinous animals in America and the consumption of the meat in this country they lose all vitality.

"It has not appeared that the salted and smoked pork, as it is brought into the market from America, exposes consumers in this country to any danger from

trichinous disease.

"We propose, at a later period, to report to your excellency on the proofs that

are still being taken.

"In conclusion we take the liberty to point to the expediency of causing an investigation to be instituted on a extensive scale as to the occurrence of trichinæ in native pigs, for which purpose a good opportunity will present itself as soon as the public slaughterhouse at Rotterdam shall come into use."

SPAIN.

No. 121.

Mr. Fairchild to Mr. Blaine.

No. 176.]

LEGATION OF THE UNITED STATES, Madrid, July 16, 1881. (Received August 4.)

SIR: I have the honor to acknowledge the reception of your instruction No. 144, transmitting copies of the report recently made by an officer of the Department of State relative to the late rumors as to the alleged unhealthfulness of American

In accordance with the instructions therein contained I have addressed a note upon the subject to the minister of state, and at the same time transmitted several copies of the report in question. A copy of my note is herewith inclosed.

As your instruction was very naturally based upon the supposition that the admission of American pork into Spain was still prohibited, it is necessary that I

should make the following explanation:

When the question of the prohibition of American pork in France was occupying the attention of the Department and the legation at Paris, General Noyes wrote to me asking to be informed as to what measures, if any, had been taken by the Spanish (Novernment in regard to the entry of that article of our produce into Spain. I at once examined the question and found that the royal order of the 28th February, 1880, prohibiting the admission of American pork into Spain had been annulled by royal order dated the 10th of July, of the same year, and that that article would thereafter be admitted on complying with certain conditions prescribed therein. A copy of this order was sent to General Noyes.

I regret exceedingly that the royal order of 10th July, above referred to, entirely escaped my notice at the time of its issuance and publication, thus preventing my sending, as I certainly should have done, a copy to the Department. I now send a copy and translation of it that you may the better see upon what conditions American pork is now permitted to enter Spain. Those conditions, I have no doubt, will appear to you as they do to me, just and proper, and to which no reasonable objection can be made by the dealers in and shippers of that important article of our produce, as it has always been their wish that the article should be subjected to the most severe inspection, knowing full well that it would more than stand the test and comparison with that of any other country.

I shall avail myself of every opportunity to give publicity to the report by dis-

tributing it among those interested.

I have, etc.,

LUCIUS FAIRCHILD.

[Inclosure 1 in No. 176.]

Mr. Fairchild to Minister of State.

MADRID, July 15, 1881.

EXCELLENCY: In view of the disastrous effects produced throughout Europe by the reports of the alleged unhealthfulness of American pork shipped to foreign countries, an officer of the Department of State at Washington was recently detailed to make a most searching and impartial investigation concerning the truth or untruth of such reports.

The officer in question, after having visited the cities of Chicago and Cincinnati, the two great pork centers, and where are situated and in daily operation the largest pork-slaughtering establishments in the United States, has lately submitted the result of his impartial investigations to the Secretary of State in a report, copies

of which I beg to hand your excellency herewith.

The report not only clearly and fully proves that there was not the slightest foundation for the alarming reports set affoat, but also as clearly shows how impossible it is, owing to the severe inspection to which the pork is subjected, whether alive or dead, for unhealthful pork to reach either the home or the foreign markets. For your excellency's further information, and for greater convenience, I beg to refer to the conclusions arrived at on page 14 of the report above mentioned.

I do not know how I can better illustrate to your excellency the entire good faith with which my Government ordered the inspection to be made, than by quoting the following paragraph from the instructions sent to me by the Secretary of State,

in transmitting the report above referred to:

"This investigation was forced upon the Government by the disastrous effects produced abroad by those rumors, and by the action of several European governments in stringently restricting or prohibiting the importation of swine products from this country. It was undertaken in the most impartial spirit and with full recognition of the weighty responsibility which would rest upon this Government should the prevalent rumors be substantiated. Had it been found that this great American industry was the means of disseminating disease and death abroad, no admission could have been too frank or prompt, and no repressive measures too urgent to vindicate our national good faith.

'As it is, the result goes beyond our most sanguine expectations in proving the

baselessness of the statements which have unhappily wrought such injury upon one of our most widely spread and valuable branches of foreign commerce."

I may add that the information contained in the report herewith inclosed is only sent to your excellency to bear out the wise and just decision arrived at in the royal order of the 10th of July, 1880, rescinding that of February 28, of the same year, and permitting the entry into Spain of pork and lard proceeding from the United States on certain conditions prescribed therein. This laudable action of His Catholic Majesty's Government can not be too highly commended.

I may a so refer your excelency to the action of the Government of His Majesty the king of Eelgium (on pages 15 and 16 of the report in question), which, disregarding the popular clamor and prejudice and examining the question fairly upon its merits, reached some time since the conclusion, to which the Government of the United States is also irresistibly led, that of the widely spread food staple of the world's commerce, none is grown, packed, and exported under conditions more calculated to assure safety and wholesomeness than the pork product of

I have inclosed to your excellency several copies of the report referred to, not doubting that your excellency will, in the interest of the dealers in and consumers of American pork in Spain, desire to give publicity to the facts therein contained.

I avail, etc.,

LUCIUS FAIRCHILD.

[Inclosure 2 in No. 176.—Translation.]

Minister of the Interior to Minister of Hacienda.

EXCELLENCY: An account having been given to His Majesty of the applications made by various merchants and industrials of Valladolid, Cartagena, Santander, and of Madrid, soliciting the derogation of the royal order of February 28, ultimo, which prohibited the introduction into Spain of pork and pork grease, proceeding from the United States of America and Germany, and the grounds upon which their petitions were based having been attentively examined; and whereas the observance of said royal decree has brought about a remarkable rise in the price of the alimentary substance above referred to; and whereas in the fusion (melting) of the greases no trichinæ are found to exist, and as it is easily recognized with the microscope in the lean parts of pork, as in other meats; and as the same examination when made of the greases obtained by pressure does not give the assurance that they are free from the said parasite; and

Considering that the rise experienced in the prices of pork and pork grease shows the insufficiency of the national production to meet public consumption. and deprives the poorer class of a most necessary food; and considering how difficult it is to avoid fraud on account of the impossibility of proving the country of production when they come from nonprohibited places; and considering that a guaranty must be given to public health without injuring the interests of commerce, His Maiesty the King, having heard the opinion of the royal board of health, has

deigned to decree as follows:

The royal order of 28th February, ultimo, which prohibits the introduction of pork and pork grease proceeding from the United States of America and Germany is annulled.

2. Only the prohibition regarding the greases coming from the United States

which have not been obtained through melting will continue in force.

3. All meats which may be introduced shall be subjected to a scrupulous and microscopic inspection, and all that which contains trichinæ or is injurious to health shall be destroyed.

4. The inspection shall be made by a farrier of superior category appointed by the gobernado of the province, and paid by the importers in accordance with the following tariff.

5. The introduction of said meats and greases shall only be effected through the

first-class customs. 6. The foregoing provisions will be applied to meats and greases already imported

and pending clearance at the custom-houses.

By royal order I communicate this to your excellency for your information, and in order that the necessary orders to the above effect may be given by the ministry under your worthy charge.

God guard your excellency many years.

Francisco Romero Robledo.

MADRID, July 10, 1880.

Tariff for the payment of fees for the inspection of pork which may be imported from the United States of America and Germany: For each case containing from 80 to 100 hams. 2 pesetas: for each case containing from 250 to 300 shoulders, feet, legs, or tongues. 2 pesetas 50 centimes: for each case of bacon (containing muscular fiber) of from 20 to 30 pieces, 1 peseta 50 centimes.

Approved by me.

MADRID, July 10, 1880.

ROMERO.

No. 122.

Mr. Marston to Mr. Davis.

[Telegram.]

MALAGA, February 18, 1882.

No trichinæ found in American port in Malaga as reported.

MARSTON, Consul.

No. 123.

Mr. Marston to Mr. Davis.

No. 76.1

UNITED STATES CONSULATE,
Malaga, Spain. February 14, 188%. (Received March 5.)

Sir: I have the honor to report the appearance in Malaga of the much-dreaded trichinae, and I herewith inclose copy of an official bulletin issued yesterday by the civil governor of the province, cautioning the public against the use of pork, ham, sausage, etc., and providing such preventives as will arrest the further spread of the malady. About 20 persons are now suffering from this affliction (7 in one house), and 1 person has died from its effects. From the investigation that I have made thus far, it appears that some of those who are afflicted have eaten longaniza or sausage brought from Galena in the district of Seville, and it is claimed that one case has been traced to a person having eaten ham said to have been imported from the United States; but of this there is no certainty; in fact, I question whether any proof exists as to where the ham came from. I am investigating the subject, however, and will report the origin if possible.

The longaniza or sausage is made from raw fresh pork, and is intended to be cooked before being eaten. Therefore it is not possible that the pork used in making the sausage came from the United States, but is home production.

I am, etc.,

H. C. MARSTON, Consul.

[Inclosure in 76.—Official bulletin extra of the province of Malaga.—Translation.]

CIVIL GOVERNMENT.

MALAGA, February 11, 1883.

The terrible malady which has caused such ravages in Germany and other countries, and which is known by the name of trichinosis, being caused by the presence of a microscopic parasite in the flesh of swine, has appeared at Malaga among persons who have eaten of that flesh, and more than 20 individuals are now affected with the disease.

The provincial board of health and the medical society have ascertained by microscopic analysis that sausages and pork sold in the market contain the germ

of the disease

In view of this fact, and having heard the opinion of the provincial board of health. I have resolved, among other measures, to warn the public of the great risk which attends the eating of pork in all its forms, unless it has been boiled or fried sufficiently to destroy the germ of the disease. For this purpose the pork or sausage should be cut or slit in many places, in order that the center may be exposed to a temperature exceeding at least 70° C. It must be remembered that trichinæ

are so tenacious of life that they are not destroyed by putrefaction, salting, smoking, or pickling. I havefurther ordered that all pork, lard, and sausages in Malaga shall be carefully examined by a scientific commission appointed for the purpose, and in order that the public may more easily enjoy the benefit thereof, the authorities have procured two miscroscopes—one at the slaughterhouse and the other in the market place, where experts will be found ready to examine, by aid of the microscope, free of charge, all meat and sausages that may be presented to them.

Teodoro Baró, Governor.

No. 124.

Mr. Marston to Mr. Davis.

No. 77.] UNITED STATES CONSULATE,

Malaga, Spain, February 19, 1883, (Received March 10,)

Sir: I have the honor to continue my report upon trichinæ in Malaga, which was the subject of my dispatch No. 76, under date of February 14, 1883. Since writing that dispatch I have obtained a copy of a telegram forwarded by the governor of Malaga to the Spanish Government at Madrid. As the civil governor distinctly says in that dispatch that one person had acquired the malady through eating ham imported from America, I immediately addressed his excellency a communication, under date of the 15th instant, and his reply, dated the 17th instant, reached me on Sunday morning, the 18th instant. You will see that he now declares that no proof exists that any American ham or pork has been found affected with trichinæ. On receipt of the governor's letter, on the 18th instant, and knowing that the Society of Natural and Physical Sciences had made microscopic inspection of all meats in Malaga which the authorities had suspected, I addressed the president of that society, and received his official reply the same day.

addressed the president of that society, and received his official reply the same day. Early Sunday morning, the 18th February. I was applied to for information upon the subject of trichinæ by parties who had received telegrams from England asking whether 20 persons had died in Malaga, as reported by telegraph from Madrid. This convinced me that the alarm was widespread and gravely detrimental to American interests, and I felt justified in telegraphing to your Department. Especially did I feel authorized so to do with the official letter of the civil governor in my possession, as well as that of the president of the society, to whom all suspected meats had been referred. I also made it my business to see that answers to the telegrams from England were sent in accordance with the facts, although I fear that grave injury has resulted from the false reports in circulation, yet prompt denial will alay to some extent the excitement caused. Previous to the breaking out of the trichinæ in Malaga every store where meats were sold had a large supply of American hams; whereas the day following the publication of the governor's report to Madrid not an American ham could be found in Malaga. They had all suddenly changed into English hams. There are now about 25 persons suffering from trichinosis in Malaga and 3 have died.

Hoping this report will meet with your approval, I am, etc.,

H. C. MARSTON, Consul.

[Inclosure 1 in No. 77.—Telegram.—Translation.]

Governor of Malaga to the Spanish Government.

Several cases of trichinosis have occurred at this capital, there being four persons in a single house who are affected with the disease, two of them dangerously so. Three, moreover, have symptoms of the disease, and in another house one. We have also learned that two other persons have been attacked. I at once convoked the board of health, and suitable measures have been adopted to check the disease. The cause of the sickness in the seven persons first referred to was the eating of sausages from Galena, in Cadiz, to the governor of which province I have reported by telegraph what has taken place; and the eighth was attacked in consequence of having eaten ham imported from America. The meat, upon examination with a microscope by experts, was found to contain trichinæ.

[Inclosure 2 in No. 77.]

Mr. Marston to the Governor of Malaga.

UNITED STATES CONSULATE, Malaga, February 15, 1883.

SIR: I have the honor to address your excellency upon the subject of the appearance of trichine in Malaga. May I beg, in pursuance of my duty as American consul at this place, that you will furnish me with whatever knowledge you possess that the hams eaten by one or more of the sufferers were imported from the United States, as contained in the published dispatch sent by your excellency officially to Madrid?

I have, etc.,

H. C. MARSTON, Consul.

[Inclosure 3 in No. 77.—Translation.]

The Governor of Malaga to Mr. Marston.

MALAGA, February 17, 1883.

SIR: I have the honor to reply to your polite communication of the 15th instant, and to inform you that I have reported to the Government that the cases of trichinosis that had occurred in this capital were due, according to intelligence received, to the eating of pork imported from the nation which you so worthily represent in this city. These reports were afterwards not confirmed, but it is certain that the pork which originated the cases in question was not the fresh meat of hogs slaughtered in this city. This is all I have to communicate in reply to your polite note.

God guard you for many years.

Teodoro Baró, Civil Governor.

[Inclosure 4 in No. 77.]

Mr. Marston to the President of the Society of Natural and Physical Sciences.

UNITED STATES CONSULATE, Malaga, February 18, 1883.

Sin: I have the honor to communicate with you upon the subject of trichine in Malaga. I understand that your society have examined all samples of ham, pork, longaniza, etc., which the authorities of Malaga have suspected as being affected with trichine. Have any trichine been detected in any hams or pork reported to have been imported from the United States? Your answer to this inquiry will greatly oblige, etc.

H. C. MARSTON, Consul,

[Inclosure 5 in No. 77.—Translation.]

Mr. Orneta to Mr. Marston.

SOCIETY OF PHYSICAL AND NATURAL SCIENCES OF MALAGA,
OLD COLLEGE OF SAN TELMO,
Malaga, February 18, 1883.

I have received your communication of this date, and I have the honor to inform you that *Trichina spiralis* has been detected by this society in sausage of whose origin we are ignorant. In the other cases in which swine's flesh was examined we have as yet been unable to establish its existence.

May God preserve your life for many years.

Domo. DE ORNETA, President. A. PROLONGO, Secretary.

No. 125.

Mr. Marston to Mr. Davis.

No. 78.1

UNITED STATES CONSULATE. Malaga, February 24, 1883. (Received March 13.)

SIR: I have the honor to continue my report upon trichinæ in Malaga, which was the subject of my dispatches Nos. 76 and 77. I was so indignant at the declara-tion that trichine had originated in American hams without any proof thereof that I induced the authorities here to make all possible efforts to trace the origin. happily with success, as you will see by the inclosed paragraph which appeared in this morning's paper. Happily we have a civil governor whose administration is an honorable and just one.

I am, etc.,

H. C. MARSTON, Consul.

[Inclosure in No. 78.—Extract from Malaga newspaper.—Translation.]

It appears from a telegram received by the governor of Malaga from the governor of Seville that Jose Diaz, a sausage vender at Galena, brought to this city the sausage containing trichinæ, which has caused all the sickness and alarm here. Various examinations have been made of pork at Galena, in some of which trichinæ have been found. The pork thus affected has been burned, and the authorities have issued stringent orders with a view to preventing the spread of the disease. They have, moreover, reported the matter to the General Government.

No. 126.

Mr. Reed to Mr. Frelinghuysen.

No. 173.7

LEGATION OF THE UNITED STATES. Madrid, February 28, 1883. (Received March 17.)

Sir: Some days since I saw in the Madrid papers that several cases of trichinosis had occurred at Malaga, some of which it was alleged had been caused by the eating of raw ham proceeding from the United States.

At about the same time I received a dispatch from Mr. Marston, our consulat Malaga, dated the 18th instant, informing me of his action in the matter and inclosing a copy of his telegram and of his dispatch upon the subject to the Department,

dated the 14th instant.

In view of the very worthy and prompt action of Mr. Marston, I did not deem it necessary for me to act here, but seeing in the papers of Saturday last that some of the persons attacked had died and that the authorities at Malaga had under consideration the propriety of recommending the issuance of an order preventing the further importation of pork from the United States, and knowing how difficult it would be if the order was once issued to have it rescinded, I deemed it my duty to do what I properly could to prevent any such order from being issued. With this object in view I at once proceeded to the direction-general of health, etc. (under the direction of the ministry of gobernacion), and not finding the directorgeneral in, asked to see the next officer in charge. This gentleman received me
very courteously, and after explaining the object of my visit. he advised me to
write an unofficial note to the minister of gobernacion upon the subject, assuring
me at the same time that it would receive prompt attention. This I did on Monday, the 26th instant, inclosing for his further information two copies of the report on "American pork," made by Mr. Scanlan in 1881, under the direction of the Department of State. I beg to inclose a copy and translation of my note.

Last evening I received the reply of the minister of governacion (a copy and translation of which I also beg to inclose herewith). expressing thanks for the copies of the report and informing me that up to the present time it had not been decided to introduce any changes whatever in regard to the sanitary formalities established for the introduction into Spain of pork proceeding from the United States, and adding that he proposed to make a careful study of the report which I

I feel quite certain that no order will be issued preventing the further importation of American pork. I am strengthened in this belief by the reception to-day of another dispatch from Mr. Marston, dated the 24th instant, inclosing a copy of a paragraph taken that morning from a Malaga paper stating that it had been ascertained that the cases of trichinosis were caused by the eating of longanizas (a kind of sausage), prepared by one José Diaz, of Galena, and that the pork or meats in his possession in which triching were found had been burned and strict orders given to prevent a recurrence of the evil.

I shall continue, however, to keep a careful watch, and should I have occasion so to do will make every effort to prevent any action by the authorities here detrimental to the introduction into Spain of this important article of our produce.

In closing this dispatch I beg to strongly commend the course pursued by Mr.

Marston. I have, etc.,

DWIGHT T. REED.

[Inclosure 1 in No. 173.—Translation.]

Mr. Reed to the Minister of Gobernacion.

LEGATION OF THE UNITED STATES. Madrid, February 26, 1883.

Sir: According to the newspapers it appears that there has lately occurred at Malaga several cases of trichinosis, of which, it is alleged, were caused by eating ham imported from the United States, and that in consequence of this the authorities have under consideration the propriety of recommending the prohibition of further importation of pork, hams, etc., from that country.

In view of the above mentioned statement I deem it my duty to inclose for your excellency's information two copies of a report giving the result of an investigation made in 1881, under the direction of the Department of State of the United States, in regard to American pork. This report explains very clearly how American swine is fattened, slaughtered, and prepared for the market, and how very impossible it is for the pork, hams, etc., to contain trichine.

While I know nothing in regard to the cases of trichinosis, referred to, or of the intentions of the Government in regard to the matter further than what I have seen in the newspapers, my object in writing this note is to request, unofficially, your excellency's powerful aid in preventing the issuance of any order which would prohibit the importation into Spain of American pork, hams, etc.

Begging that your excellency will give the matter your early consideration, I

avail, etc.,

DWIGHT T. REED, Chargé d'Affaires ad int.

[Inclosure 2 in 173.]

Mr. Gallou to Mr. Reed.

MINISTRY OF GOBERNACION. February 27, 1883.

SIR: I have received with much pleasure your polite letter dated 26th instant,

and the two pamphlets which accompanied it.

I give to you my best thanks for your kindness, and I am able to state to you that up to the present moment it has not been decided to introduce any change in the sanitary formalities established for the introduction of pork proceeding from the nation you so worthily represent in this court.

I propose to make a careful study of said report; and, renewing my thanks, I

am, etc.,

PIO GALLOU.

No. 127.

Mr. Davis to Mr. Marston,

No. 41.]

DEPARTMENT OF STATE, Washington, March 7, 1883.

SIR: I have to acknowledge the receipt of your dispatch No. dated the 14th ultimo, reporting the appearance of trichine in sausage, pork, and ham at Malaga, which has seriously affected a number of consumers. In reply, you are requested to keep the Department fully informed on the subject. Our experience elsewhere leads us to the conviction that the trichine are not to be attributed to the American products, but are usually the result of eating the native pork uncooked. There is as yet no reason to believe that a different result will be found in Malaga. Your further report is awaited with interest.

I am, etc.,

JOHN DAVIS, Assistant Secretary.

No. 128.

Mr. Badeau to Mr. Davis.

[Telegram.]

HABANA, April 5, 1883.

Authorities have to-day ordered all hog's lard coming from United States to Cuba to be examined before landing.

BADEAU.

No. 129.

Mr. Badeau to Mr. Davis.

No. 98.1

CONSULATE-GENERAL OF THE UNITED STATES, Habana, April 5, 1883. (Received April 10.)

SIR: I have the honor to forward herewith an order of the governor-general, with translation, dated April 1. but published this day, relative to the inspection of hog's lard coming from the United States.

I am, etc.,

ADAM BADEAU, Consul-General.

[Inclosure in No. 98.—Translation.]

ORDER OF THE GOVERNOR-GENERAL.

GOVERNMENT-GENERAL OF THE ISLAND OF CUBA, BUREAU, HEALTH, Habana, April 1, 1883.

On this date is communicated to the civil governor of the island the following: In view of the statements made to this central government by the Spanish consul at New York in regard to the bad hygienic condition of a certain class of hog's lard, which, with different marks, is imported into this island from the United States of America, and in view also of the result of the analysis made by the subdelegate of pharmacy of this capital of the sample of said grease forwarded by the said consular officer, the governor-general, by decree of this date, has been pleased to order that the hog's lard of said origin, of every class of mark, arriving at the ports of this island, whether coming in tierces or any other wooden vessel whatsoever, shall be inspected by the boarding physicians before being conveyed to the respective custom-houses; and you are directed to order what is necessary, so that this duty may be performed with the celerity, exactness, and care which everything relative to the public health demands.

thing relative to the public health demands.

At the same time his excellency has ordered that upon the publication in the official bulletin of this province of the aforesaid result you recommend to the local authorities and board of health the greatest watchfulness over the establishments from which the above-mentioned articles issued, in order to prevent the sale of the same in improper condition for consumption for the food of families.

This order of his excellency is published in the Official Gazette for general

information.

M. DIAZ DE LA QUINTANA.

No. 130.

Mr. Badeau to Mr. Davis.

No. 105.]

CONSULATE-GENERAL OF THE UNITED STATES, Habana, April 10, 1883. (Received April 17.)

SIR: Referring to my dispatches Nos. 98 and 101, of April 5 and 7, respectively, I have the honor to state that immediately upon the appearance of the order relative to the inspection of American hog's lard, of which a copy was forwarded with my No. 98, I addressed a communication to the governor-general, requesting a copy of the communication of the Spanish consul at New York, and of the report of the subdelegate of pharmacy of this city, or any other information on which the said order was based; but I received from his excellency a reply declining to accede to my request, on the ground that the documents in question could be forwarded only to the Government of the King (No puedo facilitarlos mas que al Gobierno de S. M. el Rey).

I have, etc.,

ADAM BADEAU, Consul-General.

No. 131.

Mr. Frelinghuysen to Mr. Reed.

No. 150.7

DEPARTMENT OF STATE, Washington, April 12, 1883.

Sir: Your No. 173 of the 25th of February last, in regard to the case of trichinosis at Malaga, which it was alleged was produced by eating American pork, and inclosing a copy of your note to the minister of gobernacion on the subject, and of his reply thereto, has been received.

It is probable that all the cases of alleged trichinosis from eating American pork which are sporadically reported in Europe from time to time would, if properly examined, prove to be as groundless as in the present instance.

Your action is approved, although it is to be borne in mind that it is irregular to correspond, even unofficially, with the branches of the Spanish Government

other than the foreign office.

It is deemed proper that you should watch this matter carefully and be prepared to address a note to the minister of state immediately on the appearance of any agitation hostile to American pork in Spain.

Consul Marston's vigilance will be commended.

I am, etc.,

FRED'K T. FRELINGHUYSEN.

No. 132.

Mr. Davis to Mr. Badeau.

No. 40.7

DEPARTMENT OF STATE, Washington, April 18, 1883.

SIR: Your dispatch of the 5th instant, No. 98, has been received, inclosing a copy of the recent order of the governor-general of Cuba in relation to the inspection

of hog's lard imported into Cuba from the United States. The reason assigned for the promulgation of the order in question, as stated by

the governor, is that he has received certain information from the Spanish consul at New York to the effect that lard of a bad quality and dangerous to the health of its consumers is shipped from the latter port to Habana and other ports in Cuba, and that the inspection and supervision over such shipments provided for by the order in question are rendered necessary in the interest of the public health. To an order or regulation inspired by such high public motives no objection can with propriety le opposed. The right of every government to adopt such precautionary measures for the safety of its subjects and the preservation of the public health is a sovereign prerogative which this Government would be the last to question. It is only when in practice such a measure may be shown to be an international discrimination against citizens of the United States that these citi ens would have a

right to complain, and that this Government might feel it its duty to remonstrate.

There are vast regions of North America outside the territories of the United States where hog raising is prosecuted extensively, much of the lard product of which, it may be presumed, finds its way to Cuba, and which certainly would seek

that market should lard from the United States be practically excluded. It is only deemed necessary at present to instruct you to observe closely and diligently the operation of the order and the practice under it, and to report to the Department without delay any case which upon examination of the facts, you may be led to believe forms just grounds for complaint. It is believed, however, that impure lard is not exported from the United States, and it is not imposs ble that through a misunderstanding of the trade classification the statements of the consul-general were based upon samples of "grease," which is always plainly marked, and can not be mistaken or used for lard. It is hoped that you will make further inquiries as to the reason for the order and as to the samples on which it was based, that the Department may be fully informed on the subject. A copy of a report made after an investigation of this subject in 1881, by order of this Department, is inclosed for your information.1

I am, etc.,

JOHN DAVIS. Assistant Secretary.

No. 133.

Mr. Frelinghuysen to Mr. Reed.

No. 159.7

DEPARTMENT OF STATE, Washington, May 3, 1883.

SIR: I inclose a copy of an order (translation) of the governor-general of Cuba, of April 1, 1883, touching the inspection of hog's lard coming to that island from the United States, and of a telegram from our consul-general there with regard to a later order requiring the inspection to be made before landing. I also inclose a copy of Mr. Badeau's No. 105 on the subject.² The purpose of this instruction is to procure for communication to the consul-general copies of the papers mentioned in dispatch No. 105 not obtainable from the local government.

I am, etc.,

FRED'K T. FRELINGHUYSEN.

No. 134.

Mr. Marston to Mr. Davis.

No. 86.7

UNITED STATES CONSULATE. Malaga, May 9, 1883. (Received May 29.)

Sir: I have the honor to communicate again with your Department upon the subject of trich ne found in a shoulder of bacon on the 11th ultimo in Malaga.

I investigated the case at the time, but I have awaited the official report, which only reached me on yesterday, from the president of the Society of Natural and Physical Sciences in this city, to whom the whole case was referred for examination and report. This bacon has been traced as coming from Manchester, England, and the English control in Malage, has forwarded also a convent of the inclusion. and the English consul in Malaga has forwarded also a copy of the inclosed com-munication to the British foreign office. The results, if any. I will communicate forthwith. Fortunately this piece of bacon was sent for examination to the society before anyone had eaten of it.

I am, etc.,

H. C. MARSTON, United States Consul.

[Inclosure in No. 86.—Translation.]

Report of the president of the Society of Natural and Physical Sciences.

SOCIETY OF NATURAL AND PHYSICAL SCIENCES OF MALAGA, OLD COLLEGE OF SAN TELMO, Malaga, May 6, 1883.

As I am aware of the interest which you have taken in the trichina case in Malaga, especially since the existence of trichinæ was discovered in a ham by this society, I have the honor to lay before you a report which I have received from the

² See ante for inclosures in this instruction.

¹ See House Ex. Doc. 209, Forty-seventh Congress, first session, page 179.

first alcalde of this capital, in reply to my communications, which report is as follows:

"As soon as I received your esteemed communication of the 11th instant, informing me that the ham presented for inspection by Don Jose A eanza to the society over which you so worthily preside, contained encysted trichine. I ordered that measures should be taken to discover the origin of said ham, and that the hams in the establishment from which it was procured should be sei, ed for inspection.

"So efficient were the steps taken by the board of health in pursuance of my instructions that it was proved that the ham in question had been sold at the fresh and salt meat market of Don Antonio Baro Guerrero, No. 17 Five Ball alley. Mr. Guerrero was summoned to appear before me, and the following instrument was drawn up: In the city of Malaga, on the 12th day of April. 1883, it being about 3 o'clock in the afternoon. Don Antonio Baro Guerrero, having been duly summoned, appeared before the constitut onal alcalde of this city, the said Guerrero being an inhabitant of this city, residing at No. 17 Five Ball alley, where he keeps an establishment for the sale of fresh and salt meat, and being requested to state whether it was true that the ham presented by Don José A canza for inspection to the Academy of Physical and Natural Sciences was bought by the said Alcanza at his establishment, he said that the ham in question was, indeed, purchased by Mr. Alcanza at his establishment, it having been one of a lot which he had received on the 6th of February last from the firm of Leverhus. Husk & Co., of Manchester, by the steamer Manuela, of which he produced the invoice and bill of

lading.

"The invoice having been examined, he was requested to explain the difference between the 492 kilograms named in the invoice and the 60 or 80 kilograms which were approximately the weight of the 5 hams seized by the commission at his aforesaid establishment; whereupon he said that the difference was owing to the fact that he had sold these hams to various unknown persons, but that he had thus far heard of no accident resulting from the consumption thereof. No further proceedings took place, and the parties concerned signed their names, to which I, the secretary certify. Carlos Davila, L. Castilla, Anto, Paro, José Ma, Lopes, I communicate to you the foregoing for your information and in reply to your communication of the 17th instant, and I must at the same time inform you that, according to a communication received from the president of the board of health, of the 18th instant, the four remaining hams which were found belonging to the lot in which Mr, Baro received the ham sold to Don José Aleanza were carefully examined with the aid of a microscope by Drs. Inocente Martinez and Candido Solas and that nothing was found in them indicating the existence of trichinæ: in consequence of which, the aforesaid gentlemen being fully satisfied of their wholesome character, they were returned to their owner."

I have the honor to communicate to you the foregoing for your information.

God guard you many years.

Domo DE ORNETA, President.

No. 135.

Mr. Badeau to Mr. Davis.

No. 147.]

CONSULATE-GENERAL OF THE UNITED STATES, Habana, May 25, 1883. (Received May 31.)

SIR: Referring to your dispatch of April 18 instant, I have the honor to report that immediately upon its receipt I addressed the Governor-General in compliance with your orders, making further inquiries as to reason for his order relative to the inspection of hog's lard imported into Cuba from the United States, and have this day received a reply, a copy of which, with translation, is inclosed.

I am, etc.,

ADAM BADEAU, Consul-General.

[Inclosure with dispatch No. 147.—Translation.]

Letter from Governor-General of Habana to Consul-General Badeau.

In answer to your honor's official letter of last month, relative to the motives on which the order for the inspection of lard imported into this island from the United States is based, I have the honor to inform your honor, by order of his excellency the governor-general, that in the circular decree of this Government, dated 1st of

April ultimo, published in the Official Cazette of the 4th of said month, the reasons for ordering said inspection are clearly expressed: and nothing has since occurred in the matter worthy of mention; informing your honor that if the Government of the United States wishes to become thoroughly acquainted with the particulars relative to the inspection of lard, it can, if thought convenient, address itself to his excellency the Span sh minister at Washington, who has detailed information of what in substance is declared in the aforesaid circular of April 1.

All of which, by his excellency's orders, I have the honor to communicate to

your honor for your information.

May God preserve your honor many years.

Habana, May 19, 1883.

M. DIAZ DE LA QUINTANA.

No. 136.

Mr. Marston to Mr. Davis.

No. 88.]

UNITED STATES CONSULATE, Malaga, Spain, June 8, 1883. (Received June 26.)

SIR: I have now the honor to further communicate with your Department upon

the subject of my dispatch No. 86, under date of May 9 last.

In reply to the report made at the time by Her Britannic Majesty's consul here, the British foreign office has now forwarded to that office a communication from the firm in Manchester who purchased the "shoulder" in question and shipped it

It is obviously a very obscure report, not shedding much light upon the origin of the meat, "Higgins, the curer in America," being about as authentic as Jones

or Smith would be.

I am. etc..

H. C. MARSTON. United States Consul.

[Inclosure No. 88.]

Leverhus, Husk & Co., to the clerk of the council, veterinary department.

1 AND 3 LEMINGTON PLACE, Princess Street, Manchester, May 17, 1883.

Sir: In reply to your inquiry [of the] 16th instant, we beg to say that the shoulders in question were bought by us as sound meat in Liverpool, through our brokers, as "American" shoulders, and the boxes were branded with the name of Higgins, which we believe is a curer in America. We are, etc.,

LEVERHUS, HUSK & Co.

No. 137.

Mr. Frelinghuysen to Mr. Barca.

DEPARTMENT OF STATE, Washington, June 14, 1883.

SIR: I have the honor to inclose a copy of an instruction (No. 40) of this Department to Consul-General Badeau, at Habana, touching an order of the Governor-General of Cuba, in relation to the inspection of hog's lard imported from this country into that island, also a copy of the Governor-General's note of May 19 last, in the case. Asking that you will kindly give me such information as you can as to the necessity of this inspection,

I beg, etc.,

FREDK. T. FRELINGHUYSEN.

No. 138.

Mr. Barca to Mr. Frelinghuysen.

LEGATION OF SPAIN AT WASHINGTON, Washington, June 20, 1883. (Received June 21.)

The undersigned, envoy extraordinary and minister plenipotentiary of His Majesty the King of Spain, has had the honor to receive the note of the 14th instant,

whereby the honorable Secretary of State, in transmitting to him a copy of the instructions (No. 40) sent to Mr. Badeau, United States consul-general at Habana, relative to the order issued by the Governor-General of Cuba, for the examination of hog's lard imported from the United States, and of the note of the afore-aid Governor-General of the 19th ultimo, relative to the same matter, was pleased to ask him for information concerning the causes which had rendered such an exami-

nation necessary.

The undersigned hastens to inform the honorable Secretary of State that the measure in question was adopted because a number of American citizens, merchants in good standing, had made complaint to the consul-general of Spain in New York that a certain house was exporting adulterated lard, which was injurious to health to the island of Cuba, and that honest dealers were unable to compete with the shippers of that artice. An order was consequently issued that samples of the lard complained of should be examined by competent experts, which examination showed that the said lard did, indeed, contain ingredients injurious to public health. The Governor-General, therefore, in the exercise of his rights and in the fulfillment of his duty, ordered that hog's lard from the United States should be inspected.

The undersigned takes pleasure in informing the honorable Secretary of State that the adoption of the measure in question implies no intention to establish any discrimination between goods from the United States and those of any other friendly nation, nor any intention to establish discriminating measures calculated to check the development of commerce between the United States and Cuba. The object of the captain-general of Cuba in issuing the order which gave rise to the complaint of the American consul-general was, to the knowledge of the undersigned, to take such precautions as are required by a due regard for public health in a tropical country during the summer months, and to protect honest merchants

in accordance with their own request.

The undersigned, hoping that the foregoing explanations will fully satisfy the honorable Secretary of State, avails, etc.,

FRANCISCO BARCA.

No. 139.

Mr. Frelinghuysen to Mr. Barca.

DEPARTMENT OF STATE Washington, June 29, 1883.

SIR: I have the honor to acknowledge the receipt of your note of the 20th instant. apprising the Department of the fact that the late order of the Governor-General of Cuba touching inspection there of hog's lard from the United States originated in a complaint to the consul-general of Spain at New York from certain American merchants that a certain house was exporting adulterated lard and that honest dealers were unable to compete with the shippers of that article.

Thanking you for your very kind reply to the inquiry of the D partment of the

14th instant,

I beg, etc.,

FREDK, T. FRELINGHUYSEN,

No. 140.

Mr. Foster to Mr. Frelinghuysen.

No. 40.7

LEGATION OF THE UNITED STATES, Madrid, July 23, 1883. (Received August 9.)

SIR: On the 19th instant the newspapers of this capital announced that on account of the appearance of cases of tr.chinosis at Malaga the Spanish Government had, upon the advice of the royal board of health, decided to prohibit the importation of American and German pork products.

On the same day I called upon the minister of state and asked him if he could give me any information as to the correctness of this report. He answered that he had heard nothing of it, but recommended me to call upon his colleague, the minister of the interior (gobernacion), which I did on the same day. In the absence of that minister the subsecretary received me, who, in reply to my inquiries, stated that the royal board of health had recommended the prohibit:on referred to, but the minister of the interior had decided that it was only necessary to enjoin

the enforcement of the royal order of July 10, 1880, which prescribed an inspection of pork and lard proceeding from the United States and Germany and their destruction when found to contain trichinæ. A copy and translation of the royal order of July 10, 1880, was sent to the Department with Mr. Fairchild's No. 176, of July

16, 1881.

I improved the opportunity of my visit to explain somewhat in detail to the subsecretary and to the chief of the sanitary bureau, who was present, the results of the investigations made under the direction of the Department of State, as contained in Mr. Scanlan's report of 1881 (a copy of which had been left at the ministry by Mr. Reed some months ago), and the importance of this industry to our country. I was assured that the exclusion of American pork was not contemplated by that ministry, but only a reasonable inspection, in view of the reported appearance of the disease at Malaga.

You will see, by reference to Mr. Reed's dispatch, No. 173, of February 28 last, that a similar report affecting American pork was started at Malaga at that time, but upon investigation it was found that the disease did not originate from the use of pork proceeding from the United States, but from Spain itself. Information will be asked of the consul as to the cause of the recent alarm, and his report

will be sent to you.

In view of the fact that telegrams from Madrid have appeared in the European press giving a false report of the action of the Spanish Government, I deem it proper in the interest of our exporters to send you a telegram this morning, as follows:

"Importation of American pork not prohibited in Spain as telegraphed to for-

eign press. Only inspection required as reported in Fairchild's No. 176.'

I am, etc.,

J. W. FOSTER.

No. 141.

Mr. Foster to Mr. Frelinghuysen.

No. 43.]

LEGATION OF THE UNITED STATES, Madrid, July 23, 1883. (Received August 9.)

Sir: Referring to your instruction No. 159, of May 3 last, to Mr. Reed, and his dispatch No. 235, of June 5, relative to lard or pork inspection in Cuba. I now transmit a further note from the minister of state, dated the 19th ultimo, in which he says that information has been asked of the governor-general of Cuba, with the object of communicating the same to this legation, but the minister adds that the measure adopted by the governor-general was in accordance with precautions telegraphed on the 25th of February last by the ministry of ultramar.

In acknowledging receipt of the minister's note on the 21st ultimo, I suggested that you would be gratified to be informed of the reports or information which led to the action of the ministry of ultramar, and the character of the instructions

given to the authorities of Cuba.

A translation of the minister's note and a copy of my reply are herewith inclosed. I have delayed their transmission to date in the hope that I might receive a further reply touching the information suggested in my note of the 21st ultimo, but it has not come to hand.

I am, etc.,

JOHN W. FOSTER.

[Inclosure 1 in No. 43.—Translation.]

Minister of State to Mr. Foster.

MINISTRY OF STATE, Palace, June 19, 1883.

My Dear Sir: In addition to the note to the legation, dated the 1st instant, relative to the documents and other information in regard to the sanitary inspection ordered by the superior authority of the island of Cuba, in all the ports of that island, of pork products (cecina) proceeding from the United States, I have the honor to inform your excellency that before the request referred to may be sent to the respective customs authorities, antecedents have been asked of the governor-general of said island in order to furnish your excellency with the desired information, although I must state that the measure adopted by the gov-

ernor-general of Cuba in the matter was in accordance with pre-autions telegraphed on the 25th February last, by the minister of ultramar, to guard against the propagation of trichinæ in pork and lard.

I improve, etc.,

THE MARQUIS DE LA VEGA DE ARMIJO.

[Inclosure 2 in No. 43.]

Mr. Foster to Minister of State.

LEGATION OF THE UNITED STATES,
Madrid, June 21, 1882.

EXCELLENCY: I beg to thank your excellency for the note of the 19th instant, by which I am informed that the antecedents of the order regarding pork proceeding from the United States have been asked of the governor-general of Cuba, in order that your excellency may more fully reply to the note of this legation of the

28th May last.

As it would seem from your excellency's note above referred to, that the measure adopted by the governor-general of Cuba was in accordance with precautions telegraphed on the 25th February last by the ministry of ultramar, I venture to suggest to your excellency that my Government would be highly gratified to be informed of any of the reports, investigations, or information which led to the action of the ministry of ultramar February 25, and the character of the instructions given to the authorities of Cuba, so far as it may be deemed proper by His Catholic Majesty's Government to communicate the information desired.

I gladiy avail, etc.,

JOHN W. FOSTER.

No. 142.

Mr. Foster to Mr. Frelinghuysen.

No. 89.]

LEGATION OF THE UNITED STATES, Madrid, October 23, 1883. (Received November 7.)

Sir: Referring to the note of the Spanish minister of state of June 19 last on the subject of hog's lard, transmitted with my No 43 of July 23. I now inclose a further note of the 10th instant from the minister, in which he communicates the reasons of the governor-general of Cuba for the adoption of the order for the inspection of lard proceeding from the United States. These reasons, it will be seen, are based upon the alleged adulteration of certain-named brands of American manufacture.

I am, etc.,

JOHN W. FOSTER.

[Inclosure in No. 89.—Translation.]

The Minister of State to Mr. Foster."

MINISTRY OF STATE, Palace, October 10, 1883.

EXCELLENCY: In answer to the notes from your legation, dated the 28th of May and 21st of June last, I have the honor to state to your excellency that information had been asked of the governor-general of Cuba concerning the measures adopted for the inspection and examination of hog's lard coming from the United States.

The said authority has recently informed His Majesty's Government to the effect that hog's lard marked "Corona." "Irving." "Pavo real," and "Rosedale," imported to that island, proceeding from the United States, was condemned as injurious to the public health: therefore ordering, as was his duty, that the dispatch of the article mentioned should be suspended in the custom-house until the result of the expert examination which had been ordered to take place should be known.

This having taken place, it appeared that, although the aforementioned hog's lard could not be proved notoriously injurious to the health, it was nevertheless an impure and adulterated article, without qualities for sustenance; for which

cause the governor-general of Cuba ordered, on the 1st of April, the previous inspection of all lard arriving at the ports of the island proceeding from the United States which should come in tierces or any other wooden packages, and from this arose the remoustrance of the consul-general of the United States to the aforesaid superior authority, asking for a copy of the accusation and the expert report, to which the governor-general did not think he ought to accede.

The latter adds finally that the examination directed by the order of the 1st of April does not extend to all the lard (cecina) which is imported, but only to the

lard of American production which comes in wooden packages.

In informing your excellency of the foregoing,

I avail, etc.,

THE MARQUIS DE LA VEGA DE ARMIJO.

SWEDEN AND NORWAY.

No. 143.

Mr. Gade to Mr. Davis.

No. 309.7

UNITED STATES CONSULATE, Christiania, March 3, 1882. (Received March 29.)

SIR: For more than a year no complaints have been heard in this country concerning diseased pork imported from America. The boards of health in the cities continue to examine the pork imported from abroad, but it is evident that only a partial examination of each lot can be made, and that the prescribed examination is largely a matter of form. On the other hand, some time since triching were found in this district in pork raised in Norway, and several persons were

seriously ill from eating it.

Large quantities of American salt meat have for a number of years been imported into this country for the use of the mercantile marine, and up to this time there has been general satisfaction with this article. However, I now see that the board of health in Moss, one of our neighboring towns, has lately seized a lot of spoiled American salt meat, and lots of similar quality are said to be reported from other places in this country. The attention of shipowners is therefore directed to the necessity of closely examining every barrel of American meat. The meat in question, which was sold in America as a prime article, was imported by a firm at this port, and seems to have been already rejused by dealers at another port before being shipped to Moss.

As most of the American meat imported here arrives over England and other countries, I can not give statistical figures showing the quantities imported from America. But lately it has largely replaced Danish meat, which was formerly in use on the many hundred Norwegian vessels which every spring leave these ports, and it will probably continue in great demand here if the American pro-

ducers export a sound and wholesome article.

I am, etc.,

GERHARD GADE, United States Consul.

No. 144.

Mr. Gade to Mr. Davis.

No. 313.7

UNITED STATES CONSULATE, Christiania, April 12, 1882. (Received May 1.)

SIR: Referring to my dispatch No. 309, dated March 3, this year, relating to spoiled American meat imported into this district, I have now the honor to report that I am informed that the meat in question was packed at Kansas City, Mo., by a firm which exports largely of that article.

The importer of the spoiled meat has had a legal survey held of it here, and had it also examined by the chemical expert of the police chambers of this city. I beg

leave to give subjoined a part of the testimony of the said expert:

"The exterior of the meat examined was found to be fresh, not only in appearance, but in odor, while the interior was found to be more or less damaged on the inside, in some places so much that the meat formed a slime, which emitted a

horrible, rotten stink. The reason why, in the very same piece, the outer part was fresh, while the inner was spoiled, is probably to be ascribed to the circumstance that the pieces were not immersed in the brine immediately after s'aughtering, but were previously only sprinkled with salt, which did not penetrate in sufficient quantity or with sufficient rapidity into the larger pieces to prevent their spoiling.' The expert adds:

"As the brine was fresh and sufficient, the damage can in no case whatever result

from the treatment of the meat after it was sent from the packing house."

I am, etc.,

GERHARD GADE, United States Consul.

SWITZERLAND.

No. 145.

Mr. Byers to Mr. Davis.

No. 285.7

UNITED STATES CONSULATE. Zurich, March 24. 1882. (Received April 2.)

Sir: In my dispatch No 259, I had the honor to report that the very stringent regulations of this cauton as to American meat importations were, as I was informed by the authorities, to be considered as partially suspended. In that dispatch I added, however that on the least provocation the fright as to American hams would be renewed and the regulations enforced with greater vigor than ever.

A provocation was discovered in the early autumn. Certain hams were imported here from Germany, containing trichinæ. They had been advertised, invoiced, and paid for as "first-class Westphalian hams," by a firm claiming to deal in the finest Westphalian hams only. The damaging discovery of triching was no sooner made than certain of the officials, with a part of the press and the native butchers, asserted that the hams were not German but American.

The regulations were enforced again stronger than ever, and in a way that became equivalent to prohibition entirely.

I undertook to point out to the authorities the injustice of the proceeding, and submitted to them numerous reports and results of investigations, both in France and the United States, tending to show the extreme juti ity of microscopic examinations to protect against existence of triching. I further showed by indisputable evidence that a single case of trichinosis, from use of American hams, had not yet been discovered in Switzerland. I at the same time had a private examination of the meat that had been seized and an investigation as to its origin. The result was triching were found in abundance, but there was no proof whatever that the hams came from America. On the contrary, there was and is every reason for supposing that the hams were what they were represented to be, viz, "first-class Westphalian hams." It is true, the seller, in his fright, and in his vain desire to get out of the difficulty, pretended that he had been cheating the public, and that these special hams were, after all. American ones pared down and smoked over to resemble the Westphalian. There was, however, no proof of the truth of this afterthought statement; besides, in his invoice, advertisement, and letters accompanying invoice (all in my possession), he distinctly declares these hams to be Westphalian.

After my repeated and earnest protests, the authorities at last appointed a special commission to investigate the whole subject of importation of meats, microscopic examination of meats, etc. The result of this investigation is the public circular order of the Government, which I inclose.

This order points out the uselessness of microscopic investigations of American or other meats, and fully rescinds the objectionable regulations of 1878, and does

wholly away with police examinations of any kind, thus making it possible to import American hams into a city and canton where former regulations had wellnigh destroyed the market.

I am, etc.,

S. H. M. BYERS, Consul.

[Incloses circular of the Cantonal Government, March 11, 1882, in German.]

¹Printed on page 174, House Ex. Doc. 209, Forty-seventh Congress, first session.

No. 146.

Mr. Mason to Mr. Davis.

No. 146.]

UNITED STATES CONSULATE,
Basle, September 25, 1883. (Received October 8.)

SIR: I have the honor to submit herewith a report on the present condition of the importation and traffic in American salted and cured pork in Switzerland, with some allusion to the general aspect of the same question in relation to neighboring European countries.

The fact that the Department of State is reported in printed dispatches as being about to institute an investigation of the conditions of hog raising and pork packing in the United States has invested the vexed question of meat imports with new and extraordinary interest, and the inclosed report is respectfully submitted, in the hope that it may be found pertinent to a subject of renewed importance.

new and extraordinary interest, and the inclosed report is respectfully submitted, in the hope that it may be found pertinent to a subject of renewed importance.

It is stated in this report that Germany prohibits the transit of American hog products through the territory of that Empire, even when such merchandise is consigned to importers in other countries. In proof of this statement I hereby inclose one original letter and two telegrams, with translations, all of which are addressed to Messrs. Jenny & Kiebiger, meat importers of this city. The telegram, which is official, shows that a shipment of American lard from Antwerp to Basle was stopped at Aix la Chapelle, the German frontier, and had to be returned to Antwerp and shipped to Switzerland by a longer route, through France and Belgium. This inexcusable mandate of the German Government is still in force.

Messrs. Fiechter Brothers, of Antwerp, to Messrs. Jenny & Kiebiger, of Basle.

FIECHTER BROTHERS, COMMISSION SHIPMENTS, ETC., Antwerp, May 12, 1883.

We have the honor to inform you that per York City 40 cases of pork meat arrived for your firm, marked J. K. Thirty-six cases, 10,229 kilograms, have been sent to you in railway wagon No. 61974, via Cethur, to be delivered to you at the Badisch railway depot. The remaining four cases shall be sent with our merchandises combined. You will receive the note of our expenses through the branch office of our firm at Basle.

It was impossible for us to have this shipment directed via Sarrachen, the German authorities since recent date prohibiting even the passing through of Amer-

ican meats.

With highest consideration,

FIECHTER BROTHERS.

[Official telegram of service No. 505.]

AIX LA CHAPELLE, June 25 1883-8.15 a. m.

To R. and A. Flebus, Antwerp:

American lard can not pass through Germany.

CHET.

[Telegram No. 549.]

Antwerp, June 25, 1883—6.15 p. m. (Received at Basle, 8.02.)

JENNY, Basle:

Passing through over German territory prohibited. Send at once instructions.

FLEBUS.

No recent announcement from America has been received in Europe with more general satisfaction than the published report that the Department of State would appoint a commission to investigate thoroughly and report authoritatively upon all the conditions of hog raising in the United States, and the preparation of the various forms of pork for export.

It is inferred that this action is the first step in a definite policy of resistance to the causeless and wholly unjustified proscription that now excludes a leading American product from the markets of several European countries which seek by every means to develop and increase the export of their manufactured merchan-

dise to the United States.

The time has long been past when any intelligent person in Europe or America could be deceived by the transparent pretense that American cured meats are impure or more dangerous to health by reason of trichinæ than the best salted

and smoked meats of Germany or Austria. No European statesman or journalist, who discusses the question candidly, now denies that the pretended horror of triching is merely a diplomatic display of solicitude for the health of the people, to mask the real economic motive which underlies all these edicts of prohibition.

Were it not true that the importation of American meats, at a normal stage of the market, brings the retail price of a favorite article of food within reach of many thousands of working people who could not otherwise afford such a luxury, and thereby not only makes a serious competition for the European but hers and hog raisers, but diverts a large and constantly increasing outflow of money to the United States, it would never have been discovered by the economists of Paris,

Berlin, and Vienna that Ame ican pork was dangerous or impure.

If European statesmen would say trankly that American meats, being for obvious reasons much cheaper than the European and equally good, and would obvious reasons much cheaper than the European and equally good, and would in time destroy or seriously injure the prosperity of their home farmers and meat venders, and that therefore they felt obliged to impose an impost duty upon foreign meats that should balance the une jual cost of production, that would be open, fair, and in accordance with recognized principles of international commerce. But they dare not do this. They shrink from the clamor which would meet any such avowed measure to tax the food of the people. So they invent a theory that American meats are diseased and dangerous, and impose their prohibitory tariff in the form of an edict of absolute prohibition, based upon sanitary grounds. The peasant and artisan are thereby made to pay from 15 to 20 centimes more per pound for the little meat which they eat than they would if American pork were admitted freely; but they are told that this discreet mandate which robs their pockets has been wisely devised by a paternal government which is anxiously solicitous about their health. Hence the many-sided meat question. But while Germany is carrying her prohibitive policy to the absurd length of for-bidding American meats, and even lard, to be carried across her territory by rail in cars sealed at Antwerp for delivery in Switzerland, it is also true that in this country the reputation of those meats and the public demand for them are higher and greater than ever before. From the first agitation of the subject, in the winter of 1881-82. Switzerland has taken an intelligent and well-considered cours: in respect to the meat question. When France suddenly issued a prohibitory decree because a family at Crespy, in Valois, had been attacked by trichinosis after eating the raw flesh of a newly killed pig the Swiss Government appointed an able and deliberate sanitary commission to ascertain whether any person in Switzerland had ever suffered in like manner from having eaten salted meat imported from the United States. Finding no such instance on record, and having a large working population living upon limited earnings, the Swiss Federal Government issued an official circular to all its Cantons, reminding them that a'l pork should be properly cooked before being eaten, and then welcomed to its markets the trans-Atlantic hams and bacon which were excluded by its more powerful neighbors.

While the official investigation is in progress in the United States, the fact deserves to be widely known that here in Switzerland, which is almost the only continental country in which American meats are permitted to be imported and sold on their merits, their reputation is not only higher now than ever before, but they command a preference in this market over similar classes of meats from every other country. Among the many and perfectly palpable proofs of this may be added the experience of a large meat importing firm in Basle, which supplies

no less than 1,500 retail dealers in central Europe.

Three years ago this firm imported large quantities of hams, bacon, lard, and mess pork from the United States. American lard had already a reputation as the best in the market, and that was sold under its proper geographical designation; but the meats, in consequence of what was then a vague and indefinite prejudice, were sold as being of German and Swiss origin. No little trouble and expense were assumed by this firm to maintain the delusion that their meats were all from

European sources.

The short corn crop of 1881 and the advance of the prices of hog products in the American market during 1882 made importations from the United States unprofitable, and these Swiss importers were obliged to draw their supplies from Austria. Their customers complained of the deterioration in their goods, which they found, in respect to curing and general excellence, decidedly inferior to those of the preceding year. It was explained to them that the meats which they were now buying and selling were really European, while those of 1881 had been of American origin.

The bountiful corn crop of 1882, and its effects upon the American meat supply, brought the hams and bacon and mess pork from Chicago, St. Louis, Cincinnati,

and New York again within the exporting price limits, and to-day the Basle importers have an unprecedented trade, and almost exclusively in American meats. They report that during the period of this controversy about trichinæ and impure meats an extraordinary improvement has taken place in the curing and packing of all grades of meats exported to Europe from the United States. In this respect there was very little to complain of before, but since the quality of their wares has been challenged the American packers have, with characteristic spirit and unanimity, improved their methods and increased their precautions until their product is, as a whole, unequaled in quality by that of any other country.

The name "American," as applied to this class of provisions, has become, instead

of a reproach, its highest recommendation wherever the facts are known.

I have personally conversed with retail dealers from Aargau and other interior Cantons, who say that their trade demands meats cured by the present American method, and that, excepting a limited quantity of the very high-priced Westphalian

hams, they can hardly sell any other.

While therefore the economic policy of several leading European countries has nominally excluded the hog products of the United States from these markets, the reputation of these products has steadily improved. Considerable quantities of these provisions have of course been brought from New York and Boston to Great Britain, and, after repacking to conceal their origin, have been shipped to continental ports. Meat dealers everywhere know of the superior merits of American meats, if the statesmen who make laws for them do not. The pending official investigation will, it may be presumed, settle conclusively all the real facts in respect to this question, which may be considered as yet in dispute. If the result of that measure should be the lifting of an embargo which has no motive but selfishness, no justification but prejudice, the result would be an immediate expansion of the European demand for American meats to the extreme limit of the supply. Not only can marketable swine be raised more cheaply in the Western States of America than in European countries, but for the reason that they are more cleanly and naturally fed, and their flesh more skillfully cured, American meats will command, and must in the end supply, the principal markets of the world.

FRANK H. MASON, Consul.

TURKEY.

No. 147.

Mr. Wallace to Mr. Frelinghusen.

No. 96.1

LEGATION OF THE UNITED STATES, Constantinople, June 6, 1882. (Received June 26.)

SIR: A note verbal came to the legation under date of 3d June containing a sweeping interdiction against salted meats from America, including lards. There is not much direct importation of the prohibited articles; wherefore, besides that reflection, there is consolation in the facts that nearly, if not quite, nine-tenths of the salted meats consumed in Turkey will continue to be the American product under some foreign brand, and that whether first marketed in France, England, or Germany the original dealer is not likely to be deprived of his profits by proclamations such as is here inclosed and translated.

Construing the circular as one more to the several blows recently aimed at American products in this region, it seemed best to notice it with an immediate

protest, a copy of which is also inclosed.

Very respectfully, etc.,

LEW. WALLACE.

[Inclosure 1 in No. 96.]

Said Pasha to Mr. Wallace.

[Translation.]

Sublime Porte, Ministry of Foreign Affairs, June 3, 1882.

Circular. Note verbal.]

The ministry of foreign affairs has the honor to inform the legation of the United States of America that the measure of interdiction which strikes the introduction

of salted pork meats from America is also extended to the ham and lard of the

same source, no matter by what way these articles are imported in Turkey.

The imperial ministry begs of the legation of the United States of America to kindly bring what precedes to the knowledge of his citizens.

[Inclosure 2 in No. 96.]

Mr. Wallace to Said Pasha,

UNITED STATES LEGATION. Constantinople, June 5, 1882,

EXCELLENCY: I beg to acknowledge receipt of the note verbal from the Sublime Porte, dated June 3 instant, in which you have been pleased to inform me that the measure of interdiction against the introduction of salted meats from America is

extended to hams and lard, regardless of their form of importation into Turkey. Your excellency will pardon an expression of surprise at the action thus indicated, announced, as it is, without a reason given. If reference is had to the treaty between the powers, it appears to me arbitrary in the highest degree. While it continues in its present form it can not but be construed as a discrimination against an important article of American manufacture, and peculiarly in violation of treaty rights, for which reasons it is my duty to earnestly protest against its execution. At the same time to open a way to an accommodation of the points presented, I will esteem it a favor if you will give me the reasons which have induced the Porte to resolve upon the interdiction, and give them to me before execution of the measure is entered upon. Not impossibly the operative causes may be explained away.

I avail myself, etc.,

LEW. WALLACE.

No. 148.

Mr. Frelinghuysen to Mr. Wallace.

No. 68.7

DEPARTMENT OF STATE, Washington, June 29, 1882.

SIR: Your dispatch No. 96, of the 6th instant, inclosing copy of your protest in reply to the note verbal of the Ottoman Government, prohibiting the importation therein of American salt meats, has been received, and your timely action is approved.

I am, etc.,

FREDK. T. FRELINGHUYSEN.

MISCELLANEOUS.

No. 149.

Mr. Frelinghuysen to Mr. Loring, Commissioner of Agriculture, et al.

DEPARTMENT OF STATE. Washington, July 30, 1883.

Sir: On several occasions during the last few years the importation of hog products from the United States has been restricted, or even entirely prohibited, by the legislation of several foreign states. The grounds of this action are understood to be the alleged prevalence of disease—hog cholera, trichinosis, and the like—among the swine of the United States, and the supposed consequent unfitness of the prepared products for consumption as human food. The consequent legislation, however, has not, in most cases, expressed the motives of the restrictions The prohibitory decrees of Austria-Hungary and Germany, for instance, unqualifiedly forbid the importation into those countries of the pork products of the United States.

This Government, from the time the intention was first observed abroad to question the healthfulness of the pork products exported from the United States, has made every effort to investigate the truth of the unfavorable statements which came to its knowledge. It was conceived that we were more interested in proving such charges against one of our greatest staples of food, consumed by millions of

our people, than could be any foreign country, whose inhabitants are only in comparatively small part consumers of the American products. After exhaustive and impartial investigation of the subject the conviction was reached by this Government that the premises upon which the above legislation abroad rested were and ment that the premises upon which the above legislation abroad rested were and are unfounded, and that the exported hog products of the United States are in no wise the source of danger to life and health which they are alleged to be. Wide publicity has been given to the results of the investigations undertaken by the Department of State and by the report on trichinæ and trichinosis, prepared by the Marine-Hospital Service and published by order of Congress in 1881. And efforts have not been spared to induce in the minds of foreign governments a right understanding of the facts of the matter as they are ascertained to exist here. The conviction reached by this Government has not, however, been shared by the foreign governments to whose attention it was brought, and the contemplated pro-

hibitory legislation has been effected, thereby closing important foreign markets to a food product generally used by a large proportion of our people.

It is doubtless one of the first duties of a government to watch over the health of its own community. It is difficult to believe that their restrictive measures arise from any other motive; and if foreign governments, after impartial examination, are satisfied that the pork products of the United States are, as compared with the like products of other countries, unwholesome to a degree which demands their exclusion from use as human food, it behooves this Government to examine this charge, and, if it should be substantiated, to fulfill its duty as the custodian of the public health by enacting a system of sanitary laws which shall afford for its own citizens as complete a guaranty against the evil effects of consuming the domestic product as the statutes of foreign countries afford for their subjects. The President has therefore determined to name a commission of experts of known probity, impartiality, and competence to make a searching examination on the spot of all the conditions of the hog raising and packing industries of the United States, and to follow by the most practical examination the course of this food staple from the fields and farms to the wharf where it is shipped, or to the shops where it is exposed for domestic consumption.

The matter presents itself to the President with such urgency that he is unwilling to await action by Congress. He believes it of national importance that the results of the investigation he contemplates should be laid before Congress at the opening of the session in December next in order that, if needful, legislative action may be then taken. It is therefore the President's desire that you will recommend to him the names of two competent persons to be commissioned as the rep-

resentatives of your Department.

The commission will embrace in addition one representative of the New York Chamber of Commerce, one representative of the Chicago Board of Trade, and one gentleman to be chosen by the President, comprising in all five members. As the statutes prohibit the making of any contract involving guaranty of money payment or the incurrent of any obligation for the eventual repayment of expenses without the previous assent of Congress, the Executive is unable to promise any positive assurance that the expenses of the commission will be repaid. It is, however, thought that the great importance of the step taken and the magnitude of the interest at stake will lead Congress to recognize the justice of reimbursing whatever outlay the commissioners shall have incurred in discharging the important trust confided to them.

I am, etc.,

FREDK. T. FRELINGHUYSEN.

Similar letters to-The president of the New York Chamber of Commerce; The president of the Chicago Board of Trade.

No. 150.

Mr. Frelinghuysen to Mr. Loring, Commissioner of Agriculture, et al.

DEPARTMENT OF STATE, Washington, October 3, 1883.

Sir: During the last few years the importation of hog products from the United States has been restricted, and in some instances entirely prohibited, by the legislation of several foreign countries. The grounds of this action are understood to be the alleged prevalence of disease-hog cholera, trichinosis, and the like among the swine of this country, and the supposed consequent unfitness of the prepared

products for food.

This Government, from the time the intention was observed abroad to question the healthfulness of the pork products exported from the United States, has made efforts to investigate the truth of the unfavorable statements on the subject which came to its knowledge. The result of the investigations so made has been to show that the premises upon which the adverse legislation abroad rests are unfounded, and that the exported hog products of the United States are in no wise the source of danger to health and life they are alleged to be. Although efforts have not been spared to inform foreign governments as to this state of facts, they have not given due weight to the representations which have been made to them on the subject, and consequently prohibitory legislation has been extended in Europe until many important markets there have been closed to the food products in question, of which this country produces a large excess above its own consumption.

Inasmuch as the course which various foreign powers have pursued with regard to this matter involves the charge that American citizens are engaged in the exportation of an unhealthful article of food, and inasmuch as it is believed that the agricultural and commercial interests of this country are now suffering great damage in consequence of misrepresentations as to the character of the hog products of the United States, it has been determined to take measures for such a formal and thorough investigation of the subject as will leave no doubt whatever

as to the facts.

To this end you are hereby notified that the President has designated a commission to make a searching examination of all the conditions of the hog raising and packing industries of the United States of America. This commission is constituted as follows: 1, Dr. George B. Loring; 2, Prof. C. F. Chandler; 3, Eliphalet W. Blatchford, esq.; 4, F. D. Curtis, esq.; 5, Prof. E. D. Salmon.

As the statutes prohibit the making of any contract involving guaranty of money payment or the incurment of any obligation for the eventual repayment of expenses without the previous assent of Congress, the President is unable to give any positive assurance that the expenses of the commission will be repaid. It is, however, thought that the magnitude of the interests at stake will lead Congress to recognize the justice of reimbursing whatever outlay the commission may incur · in discharging the important trust confided to it.

You are requested to confer with your colleagues with a view to the speedy

organization of the commission, that its labors may begin at an early day,

The method of procedure and other details are left to the judgment of the commision, the President desiring simply that it shall proceed in such manner as may seem most advisable to examine into this industry and the allegations as to the healthfulness of the pork products of the United States.

The commission will report the result of its investigation, as soon as practicable,

to the Secretary of State, for communication to Congress.

I am, etc.,

FRED'K T. FRELINGHUYSEN.

Similar letters to-

Eliphalet W. Blatchford, esq., on the part of the Board of Trade of Chicago; Prof. C. F. Chandler, on the part of the Chamber of Commerce of the State of New York:

F. D. Curtis, esq., of Charlton, N. Y.;

Prof. D. E. Salmon, of the Department of Agriculture, Washington, D. C.

[H. Ex. Doc. No. 106, 48th Congress 1st session.]

SWINE PRODUCTS OF THE UNITED STATES.

[Message from the President of the United States transmitting a report from the Secretary of State relative to the importation of the swine products of the United States.]

To the House of Representatives:

I transmit herewith for the consideration of Congress a report of the Secretary of State, accompanying a report made by the commission lately designated by me to examine and report upon the asserted unhealthfulness of the swine products of this country. The views and conclusions of the commission deserve the most careful consideration of Congress, to the end that, if any path be legitimately open for removing the prohibition which closes important foreign markets to those prodncts, it may be followed and appropriate legislation devised.

I earnestly recommend that Congress provide for reimbursing the expenses incurred by the commissioners in this praiseworthy service, and I should be glad also if some remunerative recognition of their public-spirited action in accepting the onerous and responsible duties imposed on them were to suggest itself to Congress. At all events, in view of the conflicting theories touching the origin and propagation of trichiniasis and the means of isolating and extirpating it among domestic swine, and considering the important bearing which precise knowledge on these points would have on the commercial aspects of the matter, I recommend provision for special research in this direction.

CHESTER A. ARTHUR.

EXECUTIVE MANSION, Washington, February 29, 1884.

To the PRESIDENT:

In the President's last annual message to the Congress he announced that in view of the action of certain foreign governments prohibiting importation of the swine products of the United States, because of alleged danger to health from their use, he had deemed it so important to ascertain and promulgate the exact facts that he had designated a commission of experts to make a thorough investigation of the subject.

The commission so appointed has now submitted a report to the undersigned, which is herewith laid before the President, for transmission to Congress, if in his

judgment it be deemed advisable so to do.

The report is thorough and impartial to a degree which can not fail to commend it to public consideration here and abroad. It deals mainly with the two asserted causes of a diseased condition of the prepared food products, namely, hog cholera, so called, and trichiniasis. As to the first, it is conclusively shown that the flesh of swine so diseased does not enter the market packed for human food, and it is, moreover, demonstrable that in no event is the disease communi-

cable to human beings.

As to trichiniasis in swine the report is less conclusive, because less is certainly known of the manner in which the living trichinæ or their germs are transmitted. The need of further investigations to determine this point, on which alone can any practicable measure for the extirpation of the disease be based, is very clear. Admitting the fact that a percentage of the animals slaughtered (probably smaller than in the countries of Europe) are more or less infested with trichinæ, the commission points out that the processes and conditions of packing and the lapse of time between the slaughter of the animal and the consumption of the prepared flesh abroad, are found to so diminish the vitality and propagative power of the trichinæ as to make it doubtful whether any of these parasites reach Europe in a

living state, or in a condition to develop in the human body.

So far as known, no single authentic instance, resting on competent scientific testimony, can be adduced of a case of trichiniasis in Europe arising from the use of American packed swine products as food, whether eaten raw or cooked. In each instance of outbreak of trichiniasis in Germany, where the habit of eating hog's meat in an uncooked state makes the disease more prevalent than in other countries, the epidemic is not only distinctly traced to the consumption of the flesh of freshly-killed native hogs, but the further significant fact is observed that the virulence of the infection diminishes with the time elapsing between the killing of the animal and the consumption of its flesh, and that an interval of only a few days, especially when the meat is even slightly salted, suffices to reduce the severity of the symptoms below a fatal stage. It may not be irrationally inferred that a still longer interval would wholly remove the danger of infection, even in uncooked meat. Scientific research as to the duration and conditions of propagative vitality of the triching after the death of the animal in which they are found, would appear to be a very necessary step toward a fuller knowledge of this aspect of the question.

In conclusion the commissioners say that-

"After carefully studying every circumstance that in any way affects the condition of the American swine, from the hour of their birth to the landing of the cured meat in foreign ports, we are free to say that our exported pork in all its forms is fully equal, perhaps superior, in its freedom from taint of every kind, either from disease or deterioration after slaughtering, to the pork of France or Germany, or any other country in which the bogs are confined within a narrow compass and do not enjoy that free run and pasturage which they get in the hoggrowing regions of the United States. There is no general prevalence of disease

among swine in any portion of this country. Microscopic examinations show that here, as in all other countries, a small percentage of the swine is affected with trichiniasis: probably a smaller percentage than in the countries of Europe. That the occas onal presence of trichinæ in our pork is a comparatively uninportant fact is shown by the variety of trichinasis among human beings, as indicated by the returns from the State and city boards of health. Another very important fact is the almost certain destruction of the trichinæ, when present in pork, by the curing process before it can be landed in foreign countries. Nevertheless, while we believe that no legitimate grounds exist for the restrictions imposed on the importation of American pork, we are satisfied that microscopic inspection of all pork for export can be secured at the packing houses, if such inspection should be demanded, as we have already fully explained."

There does not seem to be any objection in principle to such inspection whenever it may be required. Foreign commerce is necessarily conducted in conformity with the demands of the local trade, and it is clearly to the interest of producers to set such wares on a foreign market as will meet with ready and unhampered sale. When a government imposes upon the importation of foreign products conditions no more burdensome or unreasonable than those which weigh upon native products, conformity with those conditions is reasonable and requisite. If home inspection with due certification will open foreign markets for our swine products, it will certainly pay the American exporter to submit to inspection.

It is suggested that the trust expressed in the President's last annual message be repeated, that Congress shall find in the national and international bearings of the matter a sufficient motive for providing for the reimbursement of the expenses incurred by the commissioners. It seems but just to also provide some compensation for the time and knowledge thus devoted by them to public interests. It may also be advisable to make an appropriation for setting on foot the investigations suggested by the commission as to the origin and transmission of trichinæ and the means of isolating and extirpating the disease.

Respectfully submitted.

FRED'K T., FRELINGHUYSEN.

DEPARTMENT OF STATE, Washington, February 28, 1884.

PART I.

INTRODUCTORY.

Hon, FRED'K T. FRELINGHUYSEN,

Secretary of State:

The commission appointed by the President to examine into the swine industry of the United States, and into "the allegations as to the healthfulness of the pork products" of this country, beg leave to report. The commissioners entered upon the work assigned them in accordance with the following letters of instruction:

Mr. Frelinghuysen to Mr. Loring, Commissioner of Agriculture, et al.

DEPARTMENT OF STATE, Washington, July 30, 1883.

Sin: On several occasions during the last few years the importation of hog products from the United States has been restricted or even entirely prohibited by the legislation of several foreign States. The grounds of this action are understood to be the alleged prevalence of disease—hog cholera, trichinosis, and the like—among the swine of the United States, and the supposed consequent unfitness of the prepared products for consumption as human food. The consequent legislation, however, has not in most cases, expressed the motives of the restrictions imposed. The prohibitory decrees of Austria-Hungary and Germany, for instance, unqualifiedly forbid the importation into those countries of the pork products of the United States.

This Government, from the time the intention was first observed abroad to question the healthfulness of the pork products exported from the United States, has made every effort to investigate the truth of the unfavorable statements which came to its knowledge. It was conceived that we were more interested in proving such charges against one of our greatest staples of food, consumed by millions of our people, than could be any foreign country whose inhabitants are

only in comparatively small part consumers of the American products. After exhaustive and impartial investigation of the subject, the conviction was reached by this Government that the premises upon which the above legislation abroad rested were and are unfounded, and that the exported hog products of the United States are in no wise the source of danger to life and health which they are alleged to be. Wide publicity has been given to the results of the investigations undertaken by the Department of State and by the report on trichine and trichinosis, prepared by the Marine-Hospital Service, and published by order of Congress in 1881. And efforts have not been spared to induce in the minds of foreign governments a right understanding of the facts of the matter as they are ascertained to exist here. The conviction reached by this Government has not, however, been shared by the foreign governments to whose attention it was brought, and the contemplated prohibitory legislation has been effected, thereby closing important foreign markets to a food product generally used by a large proportion of our

people.

If is doubtless one of the first duties of a Government to watch over the health of its own community. It is difficult to believe that their restrictive measures arise from any other motive; and if foreign governments, after impartial examination, are satisfied that the pork products of the United States are, as compared with the like products of other countries, unwholesome to a degree which demands their exclusion from use as human food, it behooves this Government to examine this charge, and if it should be substantiated, to fulfill its duty as custodian of the public health, by enacting a system of sanitary laws which shall afford for its own citizens as complete a guaranty against the evil effects of consuming the domestic product as the statutes of foreign countries afford for their subjects. The President has, therefore, determined to name a commission of experts of known probity, impartiality, and competence, to make a searching examination on the spot of all the conditions of the hog raising and packing industries of the United States, and to follow by the most practical examination the course of this food staple from the fields and farms to the wharf where it is shipped, or to the shops where it is exposed for domestic consumption.

The matter presents itself to the President with such urgency that he is unwilling to await action by Congress. He believes it of national importance that the results of the investigation he contemplates should be laid before Congress at the opening of the session in December next, in order that, if needful, legislative action may be then taken. It is therefore the President's desire that you will recommend to him the names of two competent persons to be commissioned as the representa-

tives of your Department.

The commission will embrace, in addition, one representative of the New York Chamber of Commerce. one representative of the Chicago Board of Trade, and one gentleman to be chosen by the President, comprising in all five members. As the statutes prohibit the making of any contract involving guaranty of money payment, or the incurment of any obligation for the eventual repayment of expenses, without the previous assent of Congress, the Executive is unable to promise any positive assurance that the expenses of the commission will be repaid. It is, however, thought that the great importance of the step taken, and the magnitude of the interest at stake, will lead Congress to recognize the justice of reimbursing whatever outlay the commissioners shall have incurred in discharging the important trust confided to them.

I am, etc.,

FREDK. T. FRELINGHUYSEN.

Similar letters to— The president of the New York Chamber of Commerce; The president of the Chicago Board of Trade.

Mr. Frelinghuysen to Mr. Loring, Commissio ver of Agricu ture, et al.

DEPARTMENT OF STATE, Washington, October 3, 1883.

SIR: During the last few years the importation of hog products from the United States has been restricted, and in some instances entirely prohibited, by the legislation of several foreign countries. The grounds of this action are understood to be the alleged prevalence of disease—hog cholera, trichinosis, and the like—among the swine of this country and the supposed consequent unfitness of the prepared products for food.

This Government, from the time the intention was observed abroad to question the healthfulness of the pork products exported from the United States, has made

efforts to investigate the truth of unfavorable statements on the subject which came to its knowledge. The result of the investigations so made has been to show that the premises upon which the adverse legislation abroad rests are unfounded, and that the exported hog products of the United States are in no wise the sou ce of danger to health and life they are alleged to be. Although efforts have not been spared to inform foreign Governments as to this state of facts, they have not given due weight to the representations which have been made to them on the subject, and consequently prohibitory legislation has been extended in Europe until many important markets there have been closed to the food products in question, of which this country produces a large excess above its own consumption.

Inasmuch as the course which various foreign powers have pursued with regard

to this matter involves the charge that American citizens are engaged in the exportation of an unhealthful article of food, and inasmuch as it is believed that the agricultural and commercial interests of this country are now suffering great damage in consequence of misrepresentations as to the character of the hog products of the United States, it has been determined to take measures for such a formal and thorough investigation of the subject as will leave no doubt whatever as

to the facts.

To this end you are hereby notified that the President has designated a commission to make a searching examination of all the conditions of the hog raising and

packing industries of the United States of America. This commission is constituted as follows: (1) Dr. George B. Loring, (2) Prof. C. F. Chandler, (3) Eliphalet W. Blatchford, esq.; (4) F. D. Curtis, esq.; (5) Prof. E. D. Salmon.

As the statutes prohibit the making of any contract involving guaranty of money payment or the incurment of any obligation for the eventual repayment of expenses without the previous assent of Congress, the President is unable to give any positive assurance that the expenses of the commission will be repaid. It is, however, thought that the magnitude of the interests at stake will lead Congress to recognize the justice of reimbursing whatever outlay the commission may incur in discharging the important trust confided to it.

You are requested to confer with your colleagues with a view to the speedy organization of the commission, that its labors may begin at an early day.

The method of procedure and other details are left to the judgment of the commission, the President desiring simply that it shall proceed in such manner as may seem most advisable to examine into this industry and the allegations as to the healthfulness of the pork products of the United States.

The commission will report the result of its investigation, as soon as practicable,

to the Secretary of State, for communication to Congress.

I am, etc.,

FREDK. T. FRELINGHUYSEN.

Similar letters to-

Eliphalet W. Blatchford, esq., on the part of the Board of Trade of Chicago; Prof. C. H. Chandler, on the part of the Chamber of Commerce of the State of New York; F. D. Curtis, esq., of Charlton, N. Y.; Prof. D. E. Salmon, of the Department of Agriculture, Washington, D. C.

The commission assembled at the Department of Agriculture in Washington on the 15th of October, 1883, and assigned its work to the various members under the following heads, viz:

1. The origin and history of the hogs which make up the market supply.

2. The conditions under which they are raised and fattened.

II.

1. Transportation of hogs from farms, or when they are fatted, to "stock yards" or packers.

Condition of animals on arrival at stock yards or where they are to be slaughtered and packed.

3. Manner of slaughter and effects on the meat.

4. Treatment of carcass after slaughtering, before cutting up.

5. Curing of meat, the mode and materials used.

6. Packages used for shipment.

Storage after packing.
 Transportation to seaboard.

9. Inspection for home and foreign consumption by General Government, State authority, boards of trade.

III.

1. Extent of trichinæ and trichinosis in America and Europe.

2. Preventive measures required.

3. Effect of salting or curing upon trichinæ.

4. Effects and extent of other diseases which may exist among hogs.

In performing this duty the packing houses of the West and in the seaboard cities and the large swine-breeding sections of the country have been personally examined by the commission, and an extensive correspondence has been entered into with the packers of pork, the State and municipal authorities who have issued regulations with regard to the trade, and with the transportation companies over whose lines the traffic is conducted, in order to secure all possible information on the subject.

1. The origin and history of the hogs which make up the market supply.

2. The conditions under which they are raised and fattened.

The raising of swine in the United States of America is an industry so universal The raising of swine in the United States of America is an industry so universal that it extends to every farm. The products of the hog—pork bacon, ham, and lard, or in their manufactured forms—are consumed by all classes. Among the farmers they constitute the chief meat food. The supply for domestic use is obtained partly from the farmers themselves and partly from the general market, in which the products of every State and section find a sale, and from which foreign countries are supplied. The States which furnish nearly all the pork products which go to foreign markets are Iowa, Illinois, Missouri, Indiana. Ohio, Kansas, Kentucky. Nebraska, Wisconsin, and Tennessee. They are enumerated in the order of their production. Texas, Arkansas, and Michigan. West Virginia, and Minnesota also send to the packing houses a small amount of the great market supply. The number of hogs in all these States, according to the returns of the Department of Agriculture 10r 1883, was 31.955,020, while the total number in the United States by the same report was 43,270,086. The Southern States produce a large number of hogs which make superior bacon and hams. Georgia is credited in the annual report of the Department of Agriculture with 1,412,604 hogs; North Carolina, 1,311,821; Alabama. 1,225,534; Mississippi, 1,070,269; and Virginia, 773,864. The hogs from these States are used for domestic consumption.

In the States which supply the hogs for the foreign market corn is a leading grain production, and it is found that the number of hogs in each State is proportioned to the yield of this staple. The 15 States mentioned above produced, in 1883, 1,301,025,300 bushels of corn.

As indicating the interest in swine breeding in America, it may be stated that a National Swine Breeders' Association has been formed, in which all the States are represented, which, at its last session held in the city of Chicago. Ill., November 14.1883, unanimously passed a resolution which was reported by the special com-

mittee on sanitary conditions, from which we quote as follows:

"We recommend that laws should be passed in all the States placing all animals thus affected [with cholera] in quarantine, with restrictions and severe penalties in any case of the violation of the law. The disease of trichinosis is practically unknown among the farmers, and we fail to see how corn, the chief food for the hogs which make up the market supply, can in any possible way be productive of trichinosis. The active efforts of the national administration in endeavoring to obtain a repeal of the embargoes of certain foreign Governments against the importation of American pork are highly appreciated, and we would approve of continued efforts, and, as the interests at stake are so great, of radical measures, if necessary, to the extent of a rigid governmental inspection both before the slaughtering of the swine and the packing and foreign shipments of pork products."

BREEDS OF SWINE.

The breeds of hogs in the United States which are the most numerously bred are Poland-China, Berkshire, Essex, Chester-White, Yorkshire, Suffolk, Cheshire, Victoria, Duroc-Jersey, and Guinea. Nearly all of these breeds are represented by a distinctive association, whose members vie with each other in endeavoring to improve and perfect the breed of their choice. The Berkshire, Essex, Yorkshire, and Suffolk varieties are of English origin, the others being American breeds. The white breeds predominate in the Eastern and Middle States. These are Yorkshire, large and small; Suffolk, Cheshire, Victoria, and Chester-White. The last originated in the State of Pennsylvania, and the Cheshire and Victoria in the State of New York. The Duroc-Jersey breed-red hogs-was formed by uniting the two different families, one originating in New York and the other in New Jersey. The Guinea hogs are natives of the South. They are compact in form, exceedingly hardy, and are black-blue and white in color. Ninety per cent of the hogs which furnish the supply for the packers are of the breel of Poland-China and Berkshire. The Poland-China swine make up the largest proportion of this amount. About 3 per cent of the hogs which go to the Western stock-yards are white, and about the same number are red or crossed with red, and the remaining 4 per cent are crosses of white and black and Essex. The Poland-China and Berkshire breeds closely resemble each other, and have the same general characteristics, excepting that the Poland-China are usually larger. Berkshire blood predominates largely in the making up of this breed. Both the Poland-China and the Berkshire are black with white spots, but when dressed the skin is white, with, perhaps, a faint bluish tage. Both of these breeds are as near perfect as American skill and experience in breeding can make them, and while they have the form of body which gives them great popularity, they also possess the color (nearly black) and skin which fit them for enduring the extremes of our climate.

BREEDING AND FEEDING.

The system of breeding and rearing swine is nearly the same in all the States, with the exception that in the colder latitudes more shelter is provided. Where the climate is milder the hogs are sometimes kept in the forests, and are protected by the underbrush, which breaks the force of the winds. Away from the forests sheds are provided, or regular houses, and straw for bedding, or the hogs are allowed to sleep around the straw stacks, near the farm buildings. It is manifest that the best hogs should be bred on the farms, not only those suited to the wants of the packer, but possessing as much physical stamina and vital power as possi-It may be suggested here that more nitrogenous food would add to the nutrition of the blood and give it greater force in building up the system. The crossing of breeds tends to impart greater constitutional vigor than animals have which have been bred for a considerable time in a direct line, and on this account it may be advisable for the producers of pork to infuse new blood into their herds. For-tunately there is no lack in this country of breeds, and such cross-bred hogs can be had without any material change of form or losing the benefits of as good skin and coats of hair. The farmers of the West understand these principles in breeding and are beginning to avail themselves of the means at hand in order to derive the consequent benefits. While it may be for the interest of the pork producer to fit his hogs for market in the shortest space of time, the same law does not hold good in the rearing of breeding stock. The farmers have learned that they should grow slower, and that the food should be of such a combination as to develop the grow slower, and that the lood should be of such a combination as to develop the entire structure of the animal during the period of growth, and not the fatty portions to excess. The hogs in the United States are generally allowed to roam and feed upon grass and clover as their natural food, during those months in which pasturage can be continued, and they are fed mainly on corn during the time in which they are to be finished for the market. They are supplied also with an abundance of pure water, and this mode of feeding contributes so entirely to the health of the animals that but a small amount of disease can be found among Refuse is seldom or never used in the great pork-producing regions of the country: this being limited entirely to villages and small farms when the hogs are confined the year through in close quarters. The breeding of swine has always followed the lead of the market. which used to demand larger hogs than are now required. Formerly the largest proportion of the pork was pickled in brine, and in this form, then as now, the heaviest hogs were used. The more modern way of dry-salting the sides and of making more bacon makes the demand now greatest for medium-sized hogs, which will make hams of smaller weight. The pigs of this kind are farrowed in the summer or in the autumn while the mothers are in the fields or in the woods; when in the fields they live, as we have said upon blue grass or upon clover, as the case may be supplemented with corn. In the woods or on the river bottoms they subsist on mast (nuts), grass, and roots of various kinds. In order to keep them from roving or getting wild on the bottom ranges, as they are often very extensive, reaching for miles the hogs are fed corn occasionally, or regularly if the owner finds it to his advantage to do so. The pigs designed for the next year's market are wintered on corn or mast and corn, and in the spring they are allowed to run in pastures, or they are confined to a feeding lot where there is water, and in which corn is their food. Except the grass and mast, which the hogs have access to in the hog-producing States, their food is Indian corn. The breeding sows are wintered on it, and it is fed to them bountifully while the pigs are suckling and to their offspring. The older hogs, which are wintered on corn, are turned out as early as possible into a pasture lot, as the value of succulent food, together with corn, is well appreciated.

FEEDING OFFAL, ETC.

The statements in regard to feeding offal at slaughterhouses have been greatly exaggerated and convey an erroneous impression. Cases of such feeding are limited to a small fractional per cent of the number of hogs as compared with the grand total in the country. A few hogs are kept by the butchers in the country towns, which are fed on the offal from their small slaughtering establishments as far as it will suffice for their food. This includes the offal from the sheep, cattle, and hogs which they may kill. These hogs are always slaughtered by their owners and sold in their own meat stores in the local markets to their customers. In Kentucky and some other States where whisky and alcohol are distilled from grain hogs are sometimes fed by the owners of these distilleries on the refuse. The pork so made is soft and never purchased for the foreign market, as it does not cure well and does not make products equal to their standard and brand. When distillery-fed hogs are changed from the refuse of the grain and fed wholly on corn for several weeks before slaughtering, they make excellent pork. This fact is well understood. Butchers can always detect a distillery-fed hog after it has been dressed, as well as one fed on mast. The fatty portion of the latter is yellow, and both are more oily than when corn fed.

SANITARY CONDITIONS.

Not all American farmers have yet learned that hogs are really among the most delicate of farm animals and that exposure and sudden changes of temperature often seriously affect them. It is a gratifying fact, however, that the sanitary conditions of the hog upon the farms have been greatly improved. Not only warmer quarters are provided, but the important fact is also better known and appreciated of affording them dry beds and sleeping ground. It is getting to be well understood that good water is almost as essential as good food to make healthy animals, and as a result of this knowledge and the gratifying consequence of the experience of those who have tried the experiment where there are no natural streams or springs to furnish pure water, a resort is being extensively made to wells, with windmills and pumps attached, to procure the needful supply. The better care of the hogs now had and the precautions exercised by farmers to either burn or bury all animals dying from disease has had the most salutory effect in increasing the general healthfulness of swine. The sensational and exaggerated theories and statements both in regard to the propagation of hog cholera and trichinæ on the farms are not in accordance with the facts as hogs are now managed and fed. The disease termed "thumps." which is one of the most fatal, is confined to young pigs, and usually affects them while suckling. It is in no sense contagious, and almost always attacks pigs which are farrowed early while shut up in pens and deprived of exercise. The mortality on this account has been materially reduced by later farrowing to give the advantage of exercise, thus preventing excessive fatness.

SALES AND WEIGHTS.

The largest sales are made during the latter part of autumn and the early part of winter. Sales are also made through the summer or whenever the condition of the hogs is suitable and the prices acceptable to the owner. The average dressed weight at 1 year old is about 200 pounds; at 18 months about 250 pounds. These are the minimum averages. The spring pigs constitute another class of hogs. They make lighter bacon, lighter dry-salted sides, and smaller hams. These pigs are fed, as soon as they are old enough to eat, all the corn they will consume. When 8 or 10 months of age they are ready to be turned off with an average minimum dressed weight of about 150 pounds. The aggregate number of hogs of all ages now slaughtered annually in the United States is estimated at about 30,000,000, averaging a dressed weight of 175 pounds, or 5,250,000,000 pounds of gross product, making a total of cured meats, lard, and other products of 4,725,000,000 pounds. The hogs are sold at the railway stations by live weight, and either driven or transported to the yards of the shipper.

PART II.

II.

 Transportation of hogs from farms, or where they are fattened, to stock yards or packers.

Condition of animals on arrival at stock yards, or where they are to be slaughtered or packed.

3. The manner of slaughter and the effects on the meat.

4. Treatment of carcass after slaughtering, before cutting up.

5. Curing of meat; the mode and materials used.6. Packages used for shipment.

7. Storage after packing. 8. Transportation to seaboard.

9, Inspection for home and foreign consumption by General Government, State authority, and boards of trade.

THE TRADE IN HOG PRODUCTS.

The pork trade of the United States has reached enormous proportions, one-half of the world's supply of hogs being now owned and raised in this country.

THE WORLD'S SUPPLY OF SWINE.

The following table, provided by the Department of Agriculture, gives the number of swine reported in the United States in 1883, in the United Kingdom in 1882, and in other countries having 100,000 or more in 1880:

	9		
United States	43, 270, 000	Belgium	603,000
Russia	10, 332, 000	Australia	567,000
Germany	7, 324, 000	Denmark	504,000
Austria-Hungary	6, 995, 000	Sweden	426, 00)
France	5, 891, 000	Holland	352,000
Spain	4, 352, 000	Argentine Republic	342,000
United Kingdom	3,940,000	New Zealand	207,000
Switzerland	2,000,000	Greece	180,000
Italy		Cape of Good Hope	132,000
British North American	., ,	Norway	101,000
Provinces	1,419,000	_	
Roumania		Total	91, 964, 000
Portugal			,,

Table showing the estimated total number and total value of each kind of live stock and the average prices in January, 1883.

		Hogs.	
States and Territories.	Number.	Average price.	Value.
Maine. New Hampshire Vermont Massachusetts Rhode Island Connecticut New York New Jersey Pennsylvania Delaware Maryland Virginia North Carolina South Carolina Georgia Florida Alabama Mississipi Louisiana Texas Arkansas Texnessee West Virginia Kentucky Ohio Michigan Indiana Inlinois Wisconsin Minnesota Iowa Missouri Kansas Nebraska California Oregon Nevada Colorada	54, 511 74, 864 80, 908 14, 405 62, 406 744, 238 214, 688 1, 060, 856 46, 744, 238 1, 060, 856 1, 1311, 821 584, 601 1, 412, 604 1, 225, 534 1, 970, 239 564, 439 1, 953, 189 1, 950, 513 1, 988, 753 1, 988, 753 404, 406 1, 916, 587 2, 714, 112 934, 184 2, 724, 383 3, 970, 764 1, 162, 238 424, 057 5, 107, 445 3, 892, 920 1, 984, 646 1, 526, 823 856, 000 168, 954 12, 000 168, 954	\$11.87 12.13 11.67 14.31 13.39 10.38 10.96 12.75 9.21 7.80 7.84 4.04 4.04 4.04 4.05 4.30 3.98 5.56 5.73 8.85 7.64 9.76 7.45 8.02 5.80 7.14 6.85 7.14 6.80 11.58	\$847, 708 661, 218 873, 663 1, 157, 736 192, 883 647, 774 8, 156, 848 2, 737, 272 2, 583, 779 4, 147, 911 5, 444, 057 6, 576, 920 6, 147, 988 7, 773, 692 2, 447, 088 7, 773, 692 2, 447, 088 7, 773, 692 11, 057, 447 7, 893, 855 20, 814, 286 21, 992 11, 313, 443 3, 159, 225 40, 981, 709 21, 644, 635 17, 008, 416 12, 153, 511 6, 111, 840 927, 557 136, 800 140, 118, 800

Table showing the estimated total number and total value, etc.—Continued.

		Hogs.	
States and Territories.	Number.	Average price.	Value.
Idaho	23,600 17,200 19,300 22,500 50,300 735	\$11.00 10.60 10.80 12.42 5.42 10.59	\$259, 600 182, 320 208, 440 279, 450 272, 626 7, 784
Total	43, 270, 086	6.75	291, 951, 221

Table showing the estimated numbers of farm stock expressed as a percentage of the numbers of the previous years; also, average of actual prices in January, 1883.

[From the Report of the Commissioner of Agriculture, November 10, 1883.]

		Hogs.	
States and Territories.	Total number of hogs compared with that of January, 1882.	Average price per head under 1 year old.	Average price per head over I year old.
Maine	Per ct. 99 101 99 102 101 101 100 94 100 98 87 99 99 122 103 85 97 88 99 90 103 85 97 110 110 110 110 110 100 105 110 107 103	\$9. 25 11. 05 11. 75 11. 35 4. 8. 35 11. 35	\$22. 33 23. 33 20. 0.42 21. 67 17. 73 18. 33 15. 00 15. 56 6. 22 6. 22 6. 32 6. 32 7. 32

The following extracts from the recent report of George B. Loring, Commissioner of Agriculture, of date November 10, 1883, presents a valuable array of facts on this subject. The returns of cattle, calves, sheep, and horses are included in order to present comparative values.

STOCK STATISTICS.

The Chicago market.

The volume of business in this great stock market is rapidly increasing. There were 1,582,530 cattle, exclusive of calves, received, and 661,521 retained for home consumption or slaughter and cutting, or shipment as dressed beef. In 1870 the difference between receipts and shipments was only 141,255. The receipts and shipments, and home consumption, for seventeen years, are thus presented:

	Cattle.	Calves.	Hogs.	Sheep.	Horses.
Receipts	14, 629, 013 9, 848, 754		66, 334, 665 22, 855, 106	5, 788, 920 2, 641, 171	149,778 133,655
Total	4,780,259	30, 219	43, 478, 959	3, 147, 749	16, 123

Of these receipts, 8,892,253, or 61 per cent of the whole number of cattle, were handled in the last seven years. The increase has been comparatively steady, amounting to nearly half a million since 1876, stimulated by the demand for the packing and canning trade, and more recently the dressed-beef trade. increase is shown clearly in Diagram D, which displays gray hically the receipts of seventeen years and the relative proportions shipped and retained. The proportions year after year run in nearly parallel lines until 1876, when the light shading indicating consumption suddenly encreaches on the dark space showing

The receipts of sheep have doubled in ten years, and the increase in seventeen has been about 200 per cent. Formerly much the larger proportion were for city consumption; now, while the number retained has greatly increased, the shipments are about half of the aggregate.

The swine receipts have increased with still more wonderful rapidity. As "hogs" and "corn" are in a sense reciprocal terms, the six years of fat corn crops nearly doubled Chicago receipts. So the poor corn year, 1881, reduced the next year's receipts 657,340, as the bad crop of 1874 checked the tendency to increase and made the following year's receipts less by 346,269.

Total receipts for seventeen years.

Year.	Cattle.	Calves.	Hogs.	Sheep.	Horses.
1865 (five days) 1846 1846 1857 1848 1888 1849 1870 1871 1872 1873 1874 1875 1876 1877 1878 1878 1879 1889	399, 007 329, 188 324, 524 403, 102 532, 964 543, 050 684, 075 761, 428 843, 966 920, 843 1, 096, 745 1, 093, 151 1, 083, 088 1, 125, 732 1, 282, 477	1 48, 948 24, 965 73, 913	17, 764 961, 746 1, 696, 738 1, 706, 782 1, 681, 899 1, 693, 158 2, 380, 083 3, 252, 623 4, 437, 759 3, 912, 110 4, 190, 006 4, 025, 970 6, 383, 684 6, 448, 380 7, 059, 385 6, 474, 844 66, 334, 665	1, 433 207, 987 180, 888 270, 891 340, 072 349, 853 315, 053 310, 211 291, 734 333, 655 418, 948 364, 095 310, 240 310, 420 325, 119 335, 810 493, 624, 887	1,553 847 1,902 1,524 3,527 5,963 12,145 20,289 17,588 11,346 8,155 7,874 9,415 10,473 10,388 12,366 13,856

¹ Prior to 1881 calves were classed with cattle.

Total shipments for seventeen years.

$\begin{array}{cccccccccccccccccccccccccccccccccccc$		Year.	1	Cattle.	Calves.	Hogs.	Sheep.	Horses.
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1867 1868 1869 1870			203, 580 215, 987 294, 717 391, 709 401, 927		758, 789 1, 020, 329 1, 086, 305 924, 453 1, 162, 286 1, 835, 594	75, 447 50, 275 81, 634 108, 690 116, 711 135, 084 145, 016	162 887 2, 185 1, 538 3, 488 5, 482 10, 625
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1874 1875 1876 1877			622, 929 696, 534 797, 724 703, 402		2, 197, 557 2, 330, 361 1, 582, 643 1, 131, 635 951, 221	115, 235 180, 555 243, 604 195, 925 155, 354	18,540 16,608 11,129 6,839 6,598 8,176
1882	1879 1880			726, 903 886, 614	1 33, 465 10, 229	1,692,361 1,394,990	159, 266 156, 510 253, 938 314, 200	9,289 8,713 11,108 12,788

¹ Prior to 1881 calves were classed with cattle.

THE FOREIGN TRADE.

While the domestic distribution has been rapidly extending and enlarging, the foreign trade in all farm animals has increased, and especially the exportation of sheep and cattle. The cattle exports prior to 1878 were from Southern ports almost entirely. When the transportation to Europe commenced from Northern ports, the numbers increased rapidly and values enormously.

The following statement exhibits the progress of stock exportation:

	Ca	ittle.	Swine.		Swine. Sheep.		Horses.		Mı	Mules.	
Year.	Num- ber.	Value.	Num- ber.	Value.	Num- ber.	Value.	Num- ber.	Value.	Num- ber.	Value.	
1870	27,530 20,530 28,033 35,455 56,067 57,211 51,593 50,040 136,720 182,756 185,707 108,110 104,444	\$439, 987 403, 491 565, 719 695, 957 1, 150, 857 1, 110, 763 1, 593, 080 3, 896, 818 8, 379, 200 13, 344, 195 7, 890, 227 8, 841, 431	12, 058 8, 770 56, 110 99, 720 158, 581 64, 979 68, 044 65, 107 29, 284 75, 129 83, 434 77, 456 36, 368 16, 129	\$189, 753 61, 390 548, 153 7, 402 1,625, 837 739, 215 670, 042 699, 180 267, 209 700, 262 421, 089 572, 138 509, 651 272, 516	39, 570 45, 465 35, 218 66, 717 124, 248 424, 416 110, 312 179, 017 183, 995 215, 680 209, 137 179, 919 139, 676 337, 251	\$95, 193 86, 888 79, 592 107, 698 159, 735 183, 898 171, 101 234, 480 333, 499 1, 082, 938 892, 647 762, 932 603, 778 1, 154, 856	2,121 1,186 1,772 2,814 1,432 3,220 2,030 2,042 4,104 3,915 3,060 2,523 2,248 2,800	\$177, 479 173, 273 268, 475 255, 365 169, 303 242, 031 234, 964 301, 134 798, 723 770, 742 675, 139 390, 243 470, 183 475, 806	995 1,930 2,121 1,659 1,252 2,802 1,784 3,441 3,441 5,198 3,207 2,632 4,237	\$140, 350 265, 827 294, 402 172, 172 174, 125 356, 828 224, 860 478, 484 501, 513 530, 989 532, 362 353, 924 320, 130 486, 560	

Exports of pork products.

Year.	Bacon ar	nd hams.	Por	rk.	Lard.		
Year.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
1873 1874 1875 1876 1877 1877 1878 1879 1880 1881 1882	Pounds. 305, 381, 737 347, 405, 405 250, 286, 549 327, 730, 172 460, 057, 146 592, 814, 351 732, 249, 576 759, 773, 109 746, 944, 545 468, 026, 640 340, 258, 670	\$35, 022, 137 33, 383, 908 28, 612, 613 39, 664, 456 49, 512, 412 51, 752, 068 58, 074, 433 50, 987, 623 61, 161, 205 46, 675, 774 38, 155, 952	Pounds. 64, 147, 461 70, 482, 379 56, 152, 331 54, 195, 118 69, 671, 894 71, 889, 255 84, 401, 676 95, 949, 780 107, 928, 086 80, 447, 486 62, 116, 302	\$5,007,035 5,808,712 5,671,49 5,671,49 6,296,414 4,913,657 4,807,568 5,930,252 8,272,285 7,201,270 6,192,268	Pounds. 230, 534, 207 205, 527, 471 166, 869, 393 168, 405, 839 234, 741, 233 342, 766, 254 326, 658, 686 374, 979, 286 378, 142, 496 250, 367, 740 224, 718, 474	\$21, 245, 815 19, 308, 019 22, 900, 522 22, 429, 485 25, 562, 665 30, 022, 133 22, 856, 673 27, 920, 367 35, 228, 575 28, 975, 902 26, 618, 048	

VALUE OF FARM ANIMALS.

The value of farm animals, as reported in the census of 1880, was \$1,500,464,609. This includes only stock on farms, exclusive of ranch cattle, sheep, and horses, and stock in towns and villages. The prices have advanced since 1883. The value of stock, as estimated in January, 1883, was as follows:

Stock.	Number.	Average value.	Value.
Horses Mules Milch cows Other cattle Sheep Swine	10, 838, 111	\$70.59	\$765, 041, 308
	1,871,079	79.49	148, 702, 390
	13, 125, 685	30.21	396, 557, 405
	28, 046, 077	21.80	611, 549, 109
	49, 237, 291	2.53	124, 365, 835
	43, 270, 086	6.75	291, 951, 221

This makes a total value of \$2,338,197,268. The numbers are intended to include

all animals on farms, ranches, or public lands.

The increase in prices in four years from 1879, the time of lowest depression in twenty years, is very marked. According to the Department re urns this advance amounts to 35 per cent for horses, 41 for mules, 39 for milch cows, 41 for other cattle, 22 for sheep, and 112 for swine. Besides the general advance of values incident to a recovery of business prosperity, there is a powerful cause at work in the case of swine, the unexampled cheapness of corn in 1879, from consecutive crops of great abundance, and the high prices now prevailing in consequence of poor yields. This increase in values, applied to the census numbers, amounts to \$2,174,000,000.

Average price of farm animals.

Year.	Horses.	Mules.	Cows.	Other cattle.	Sheep.	Swine.
1870	\$81. 38 78. 51 73. 37 74. 21 71. 45 68. 01 64. 96 60. 08 58. 16 58. 14 54. 75 58. 44 58. 52 70. 59	\$109. 01 101. 52 94. 82 95. 15 89. 22 80. 00 75. 33 68. 91 63. 70 56. 06 61. 26 69. 79 71. 35 79. 49	\$39, 12 37, 33 31, 97 29, 72 27, 99 28, 52 28, 41 21, 73 23, 27 23, 27 23, 89 30, 21	\$22.54 22.81 19.61 20.06 19.15 18.68 19.04 17.10 15.39 16.10 17.33 19.89 21.80	\$2. 28 2. 32 2. 80 2. 96 2. 61 2. 61 2. 27 2. 25 2. 25 2. 37 2. 37 2. 53	\$0. 90 0. 19 4. 33 4. 34 5. 34 6. 34 4. 34 4. 34 4. 37 4. 22 4. 70 5. 70

The following tabular statements present the growth and present magnitude of this interest:

Total number of hogs packed in the West during winter seasons, according to special reports, since 1849.

Season.	Number packed.	Cost, net.	Cost, gross.	Season.	Number packed.	Cost, net.	Cost, gross.
1882-83 1881-82 1880-81 1879-80 1878-79 1877-78 1876-77 1875-76 1874-75 1873-74 1872-73 1871-72 1870-77 1868-69 1867-68 1869-67 1868-69 1867-68 1869-67 1868-64 1862-63	5, 747, 760 6, 919, 456 6, 950, 451 7, 480, 458 6, 505, 448 5, 101, 308 4, 880, 135 5, 566, 226 5, 466, 200 4, 831, 558 3, 685, 251 2, 499, 873 2, 499, 873 1, 785, 955 2, 422, 779	\$7. 85 7. 58 5. 80 5. 22 3. 56 4. 99 7. 18 8. 82 8. 83 5. 43 4. 66 5. 15 6. 58 11. 53 10. 22 7. 95 7. 22 11. 67 4. 32 6. 70 4. 20	\$6. 28 6. 06 4. 64 4. 18 2. 85 3. 74 7. 05 6. 05 4. 34 3. 73 4. 12 5. 26 9. 22 8. 18 6. 36 8. 34 11. 46 9. 34 11. 48 9. 34 9.	1861-62 1890-61 1859-60 1858-59 1857-58 1856-57 1858-55 1858-55 1858-54 1852-58 1851-52 1850-51 1849-50 1848-49 1847-48 1848-47 1848-47	2, 210, 778 1, 818, 468 2, 489, 502 2, 124, 404 2, 534, 770 2, 201, 110 1, 132, 846 1, 332, 867 1, 652, 220 1, 560, 000 1, 710, 000 800, 000	\$3. 03 5. 67 5. 91 6. 28 4. 86 5. 94 5. 75 4. 21 4. 19 6. 01 4. 45 2. 66 4. 70 3. 25 3. 35 4. 86 8. 30	\$2.42 4.57 4.73 5.02 3.89 4.75 4.60 3.37 3.35 4.81 3.60 2.13 3.75 2.60 2.85 3.90 2.65

The following shows the number of hogs packed in the Mississippi Valley during each year ended March 1 for the last thirty years, divided between summer and winter packing, and also the number packed in Chicago during each of these years:

Year ended March 1—				hogs packed 1 to March 1.	Total number packed March 1 to March 1.	
	In Chicago.	In the West.	In Chicago.	In the West.	In Chicago.	In the West.
1854 1855 1856 1857 1858 1859 1860 1861 1862 1863 1864 1865 1866 1867 1868 1869 1870 1871 1872 1873 1874 1875 1879 1880 1880	48, 917 10, 350 31, 571		52, 849 73, 694 80, 380 74, 000 99, 262	2,534,770 2,124,404 2,489,502 1,818,468 2,210,78 2,465,552 2,350,822 2,155,702 2,893,606 4,069,520 3,261,105 2,422,791 1,785,935 2,490,791 2,781,084 2,499,173 2,595,243 3,717,084 4,875,504 5,462,700 5,561,226 4,887,999 5,068,992 6,502,446 7,475,648 6,946,151 6,914,456	52, 849 73, 694 80, 830 74, 000 99, 262 179, 684 151, 339 271, 805 505, 691 970, 234 970, 235 689, 332 796, 226 597, 954 688, 140 919, 197 1, 225, 236 688, 132 2, 136, 716 2, 230, 346 4, 009, 311 4, 960, 956 5, 762, 191 1, 900, 956 5, 752, 191 1, 900, 956 5, 752, 191 1, 900, 956 5, 752, 191 1, 900, 956 5, 752, 191 1, 900, 956 5, 752, 191 1, 900, 956 5, 752, 191 1, 900, 956 5, 900, 956 5, 900, 956 5, 900, 956 5, 900, 956 5, 900, 956 5, 900, 956 5, 900, 956 5, 950, 950, 950 5, 950, 950, 950 5, 9	2, 534, 770 2, 124, 404 2, 489, 502 1, 818, 468 2, 210, 772 2, 465, 552 2, 350, 822 2, 155, 702 2, 893, 666 4, 069, 520 3, 261, 105 2, 422, 77 1, 785, 955 2, 490, 791 2, 781, 084 2, 499, 173 2, 595, 243 3, 832, 084 5, 125, 506 6, 265, 616 6, 761, 670 6, 150, 342 7, 376, 858 9, 045, 566 10, 853, 692 10, 997, 399 12, 238, 354 10, 551, 449
1882	1,664,957	8, 210, 787	2,557,823	6, 130, 212	4, 222, 780	9, 340, 999

Previous to 1871 no reliable returns were made of the summer packing; it was, however, very inconsiderable.

Comparative statement of the last ten packing seasons, November 1 to March 1.

Season.	Number of hogs.	Average net weight.	Aggregate weight.	Seasons.	Number of hogs.	Average net weight.	Aggregate weight.
1873-74	5, 462, 700	214.97	1,174,316,619	1878-79	7, 475, 648	217. 14	1,623,262,206
1874-75	5, 561, 226	209.97	1,166,578,378	1879-80	6, 946, 151	212. 94	1,479,113,493
1875-76	4, 887, 999	217.71	1,064,122,270	1880-81	6, 914, 456	207. 71	1,436,201,655
1876-77	5, 068, 992	215.58	1,092,773,295	1881-82	5, 747, 760	210. 16	1,207,935,077
1877-78	6, 502, 446	226.04	1,469,812,893	1882-83	6, 130, 212	213. 62	1,309,535,887

The following table from the recently issued Report of the Department of Agriculture presents the itemized hog products reported inclusive of 1883:

Exports of pork products.

	Bacon and hams.		Pork.		Lard.	
Year.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
1873	Pounds. 395, 381, 737 347, 405, 405 250, 286, 549 327, 780, 172 460, 057, 146 592, 814, 351 732, 249, 576 759, 773, 109 746, 944, 545 468, 026, 640 340, 258, 670	\$35, 022, 137 33, 383, 908 28, 612, 613 39, 664, 456 49, 512, 412 51, 752, 068 58, 074, 433 50, 987, 623 61, 161, 205 46, 675, 774 38, 155, 952	Pounds. 64, 147, 461 70, 482, 379 56, 152, 331 64, 195, 118 69, 671, 894 71, 899, 255 84, 401, 676 95, 949, 780 107, 928, 086 60, 447, 466 62, 116, 302	\$5,007,035 5,808,712 5,671,495 5,744,022 6,296,414 4,913,657 4,807,568 5,930,232 8,272,285 7,201,270 6,192,288	Pounds. 230, 534, 207 205, 527, 471 166, 869, 393 168, 405, 839 234, 741, 233 342, 766, 254 326, 658, 686 374, 979, 286 378, 142, 496 250, 367, 740 224, 718, 474	\$21, 245, 815 19, 308, 019 22, 900, 522 22, 429, 485 25, 562, 665 30, 022, 133 22, 856, 673 27, 920, 367 35, 226, 575 28, 975, 902 26, 618, 048

Of the 45,000,000 hogs owned in the United States, and which are valued at \$300,000,000, from 14,000,000 to 15,000,000 find their way into the trade annually, and are valued at \$243,000,000.

The following tables show how the packing business is distributed over the

country:

Table showing the distribution of swine in the United States, of all ages, in January, 1883 and 1882.

		nt of Agri- ure.			nt of Agri- ure.
Ohio Indiana Illinois Illinois Illinois Iowa Missouri Kansas Nebraska Minnesota Wisconsin Michigan Kentucky Tennessee I2 packing States Maine New Hampshire Vermont Massachusetts Rhode Island Connecticut New York	2, 724, 383 3, 970, 764 5, 107, 445 3, 882, 920 1, 984, 646 1, 526, 823 424, 657 1, 162, 238 934, 184 1, 916, 587 1, 988, 753 28, 316, 912 71, 416 54, 511 74, 864 80, 908 14, 405	1882. 2, 827, 200 2, 867, 772 4, 136, 213 5, 551, 571 4, 097, 811 1, 787, 969 1, 316, 227 389, 043 1, 117, 587 915, 867 1, 935, 946 2, 050, 261 28, 993, 417 73, 625 53, 971 75, 620 79, 322 14, 212 61, 788	New Jersey Pennsylvania Delaware Maryland Virginia West Virginia North Carolina Georgia Florida Alabama Mississippi Louisiana Texas Arkansas California Oregon Nevada Colorado Territories Total	1,000,856 46,740 335,413 773,894 404,406 1,311,821 584,601 1,412,604 320,000 1,225,534 1,070,239 594,439 1,953,189 1,250,513 856,000 168,954 12,000	1882. 214, 688 1, 128, 570 332, 054 489, 552 1, 380, 864 590, 505 1, 426, 873 244, 180 2, 189, 539 1, 163, 336 627, 154 1, 886, 300 1, 471, 190 2, 585, 443 160, 909 10, 000 10, 000 165, 627

The Department of Agriculture reports of swine of all ages in the United States in January for the years mentioned show the following totals:

1883	43, 270, 086	1875	28, 062, 200
		1874	
1881	36, 227, 603	1873	32, 632, 000
1880	34, 034, 100	1872	31, 796, 300
1879	4,766,200	1871	29, 457, 500
1878	32, 262, 500	1870	26, 751, 600
1877	28, 077, 100	1869	23, 316, 400
1876	25, 726, 800		, , , , , , , , , , , , , , , , , , , ,

Receipts and shipments of hogs from 1872 to 1883, inclusive.

	Chie	ago.	St. L	St. Louis.		Kansas City. Peoria. Milw		Peoria.		ukee.
Year.	Receipts.	Ship- ments.	Receipts.	Ship- ments.	Receipts.	Ship- ments.	Re- ceipts.	Ship- ments.	Re- ceipts.	Ship- ments.
1872 1873 1874 1875 1876 1877 1878 1879 1880 1881 1882 1883	3, 252, 623 4, 437, 750 4, 258, 379 3, 912, 110 4, 190, 006 4, 025, 970 6, 339, 654 6, 448, 330 7, 059, 355 6, 474, 844 5, 817, 504	1, 835, 594 2, 197, 557 2, 330, 361 1, 582, 643 1, 131, 635 951, 221 1, 206, 906 1, 692, 361 1, 394, 990 1, 289, 679 1, 747, 722	759, 076 973, 512 1, 126, 586 628, 569 877, 160 886, 319 1, 451, 634 1, 762, 724 1, 840, 684 1, 672, 153	188, 700 224, 873 453, 710 126, 729 232, 876 314, 287 528, 627 686, 099 770, 769 889, 909	104, 689 220, 956 212, 552 59, 413 153, 777 192, 645 427, 777 588, 908 676, 477 1, 014, 304	8, 593 33, 610 114, 569 15, 790 26, 264 15, 973 91, 671 208, 851 152, 920 195, 524	171, 797 216, 319 188, 224 139, 647 163, 646 104, 830 235, 500 267, 669 304, 167 205, 130 161, 939	119, 669 129, 321 116, 646 93, 259 96, 044 87, 470 207, 938 236, 693 265, 419 186, 072 163, 797	235, 244 371, 985 585, 102 511, 104 569, 830 598, 560 633, 503	53, 663 66, 188 115, 845 147, 793 124, 813 75, 284 132, 843

The total number of hogs packed during twelve months ending March 1, at fifteen leading places, which pack in both winter and summer seasons, are as follows:

	1882-83.	1881-82.	1880-81.
Chicago Kansas City St. Louis Cincinnati Milwaukee Indianapolis Cedar Rapids Cleveland St. Joseph Louisville Ottumwa Omaha Des Moines Detroit Keokuk	4,222,780	5,100,484	5, 752, 191
	813,834	800,928	579, 398
	532,180	556,379	884, 159
	507,316	508,548	632, 981
	405,510	486,066	462, 348
	388,417	406,894	771, 928
	327,163	350,900	402, 061
	218,885	337,738	506, 997
	152,365	163,066	126, 000
	143,393	161,007	245, 670
	121,554	140,950	123, 200
	151,006	133,781	96, 149
	90,871	112,270	144, 707
	99,155	103,122	107, 181
	60,446	95,662	51, 881

With a view of indicating closely the total packing and marketing of hogs in all the sections of the country during the year, we submit the following for twelve months ending March 1, 1883, compared with the preceding year:

	1882–83.	1881-82.
Packed in the West Packed at Buffalo, Albany, and Troy Packed at New Haven, Providence, etc. Packed on Pacific Coast. Receipts at four seaboard cities. Aggregate number. Decrease in 1882–83.	9, 342, 999 268, 734 316, 568 275, 000 3, 264, 088 13, 467, 389 1, 358, 433	10, 551, 449 297, 563 250, 000 355, 000 3, 371, 810 14, 825, 822

The weight and production of the above-reported supply of hogs for the year ending March 1 are:

	1882–83.	1881-82.
Net weight of hogs	2, 623, 511, 584 215, 727, 923 1, 836, 458, 073 151, 009, 547 421, 513, 211 47, 415, 989 1, 277, 313 143, 684	2, 839, 239, 457 1, 987, 467, 620 468, 929, 200 1, 420, 997

The seven largest packing centers of the West, with their business for 1882-83, are as ollows:

	Number packed.	Value.
Chicago Kansas City Cheinnati St. Louis Milwaukee Indianapolis Louisville	4, 222, 780 813, 834 507, 316 532, 180 405, 510 388, 417 143, 393	\$69, 148, 000 13, 623, 581 * 9, 043, 359 * 8, 207, 313 6, 256, 862 5, 911, 391 2, 548, 460

^{*} The apparent discrepancy between the number and value of hogs at Cincinnati and St. Louis arises from the larger average weight of the hogs at the former city and the higher prices paid.

The following statement from the report of the Department of Agriculture of November 10, 1883, presents facts of interest showing changes in the movements of hogs to the seaboard cities, page 285.

In the record for swine the most noticeable change is the remarkable movement to Boston, which is now nearly equal to the aggregate receipts of Philadelphia

and Baltimore:

Receipts of hogs at the seaboard cities.

Year.	New York.	Boston.	Philadelphia.	Baltimore.	Total.	
1869	1,310,280 1,923,727 1,958,389 1,774,221 1,388,517 1,222,657 1,268,596 1,794,539	Number. 187, 558 189, 330 351, 307 602, 625 854, 307 567, 721 331, 989 361, 317 330, 614 510, 432 562, 615 691, 839 708, 900 816, 535	Number, 176, 200 189, 500 199, 610 210, 276 344, 300 243, 300 289, 900 242, 400 282, 090 341, 450 346, 960 367, 876 186, 800	Number. 250, 516 300, 000 350, 000 354, 000 314, 269 382, 7547 279, 631 259, 064 322, 945 260, 514 356, 524 356, 524 356, 524 358, 807	Number. 1, 495, 999 1, 568, 455 2, 211, 197 3, 050, 897 3, 549, 930 3, 559, 979 2, 243, 437 2, 132, 938 2, 104, 545 2, 817, 345 3, 094, 803 2, 948, 803 2, 948, 853 2, 688, 904	

The following table presents the exports of hog products from the United States, by countries, for the year ending June 30, 1882, taken from Commerce and Navigation Report'of United States for 1882:

	Countries to which exported.	Po	rk.	Ba	eon.
1	Argentine Republic	Pounds.		Pounds.	
3	Austria Belgium Brazil	591, 430 52, 020	\$48, 417 5, 640	19, 660, 547 86, 190	\$1,696,150 10,343
5 6 7	Central American States	159, 421 26, 200 14, 000	14, 622 2, 087 1, 298	19,480	1,693 480
8 9	Denmark Danish West Indies	9,000 372,610	34, 570	2,065,440 2,711	163, 382 320
10 11 12	France French West Indies French (Juiana Miquelon, Langley, and St. Pierre Islands	257, 574 429, 510 70, 150	22,956 41,938 6,672	4,776,689	381,375 10
13 14 15	French possessions in Africa and adjacent	*********	22, 953		
16 17	islands French possessions, all other Germany	1,500 50,800 1,109,000	123 4, 177 92, 546	1,803 3,482,623	259 295, 856
18 19 20	England	27, 032, 677 1, 993, 017 10, 000	2,298,241 170,890 1,000	359, 840, 448 24, 262, 662	35, 871, 720 2, 446, 979
21 22	Gibraltar Nova Scotia, New Brunswick, and Prince Edward Island	1,979,449	161,730	1,879 2,432	194 316
23	Quebec, Ontario, Manitoba, and the North- west Territory	18, 372, 222 35, 100	1,725,972 3,485	8, 674, 246 61, 584	694, 857 8, 321
25 26 27	Newfoundland and Labrador British West Indies British Guiana		411,778 596,597 289,+61	13, 602 260, 629 9, 532	1,493 28,086 895
28 29 30	British Honduras British East Indies	481, 546	43,510	57, 756	5, 209
31	Hongkong British possessions in Africa and adjacent islands	119, 200 74, 500	9, 312 6, 436	4,595	604

	Countries to which exported.	На	ms.	La	rd.
16 17 18 19 20 21 22 23 24 25 26 27	Argentine Republic	Pounds.	\$83, 472 1, 158 8, 839 5, 516 5, 405 40 8, 669 64, 344 8, 977 11, 080 1, 695 44, 024 3, 185, 044 331, 755 193 2, 295 220, 336 8, 267 17, 636 85, 284 29, 671 3, 494	Pounds. 302, 646 106, 776 21, 200, 192 3, 698, 462 189, 017 567, 560 1, 940 6, 533, 008 225, 817 31, 610, 618 757, 288 17, 639 67, 944 100, 000 22, 390 55, 467, 728 75, 210, 227 207, 700 343, 493 5, 198, 689 80, 678 27, 290 2, 589, 700 766, 767 88, 500	\$40,500 11,640 2,388,716 491,252 24,685 73,278 751,416 25,671 3,677 3,699,458 2,317 8,749 13,000 2,953 6,255,827 8,786,923 620,834 22,959 38,795 609,905 12,234 3,188 288,363 78,156 9,795

The following statement shows the quantities of hog product exported from the United States during the year ending June 30, 1883, and the principal countries to which the same was exported, taken from Commerce and Navigation Report of the United States for 1883:

C /-1 41-1-1	Por	rk.	Bacon a	nd hams.	Laı	rd.
Countries to which exported.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Great Britain: Inglan Scotland Ireland Germany France Belgium Netherlands Denmark Other countries in Europe Cuba Haiti Porto Rico Other West India islands Mexico British Guiana United States of Colombia Central American States Brazil Venezuela Other South and Central American countries Quebec, Ontario, Manitoba, and Northwest Territory Canadian Maritime Provinces British Columbia	1,304,724 6,000 1,146,682 109,400 141,025 170,400 52,822 915,584 5,463,330 1,828,613 7,263,172 24,284 24,488,950 466,085 177,045 20,340 30,850 1,827,212 17,021,015 6,127,322 31,200	135, 283 108, 025 10, 854 13, 566 17, 226 5, 813 113, 268 570, 061 206, 522 743, 733 2, 911 247, 381 49, 693 18, 304 2, 193 3, 845 194, 229 1, 714, 543 5, 865 864 3, 885	260, 094, 519 20, 014, 434 14, 708, 832 12, 884, 971 2, 933, 206 6, 914, 231 5, 321, 868 4, 433, 114 142, 497 644, 498 1, 057, 503 243, 583 242, 645 197, 985 54, 018 129, 806 175, 251 299, 711 8, 509, 912 226, 692 410, 569	\$29, 230, 372 2, 286, 015 1, 469, 283 29, 246 1, 298, 507 309, 289 644, 545 563, 934 603, 255 61, 163 146, 315 31, 857 8, 093 17, 768 28, 477 34, 863 1, 121, 519 27, 879 57, 549	61, 982, 126 5, 174, 940 11, 487 41, 872, 915 31, 794, 241 14, 884, 553 5, 996, 373 2, 078, 501 21, 405, 360 21, 405, 360 23, 340, 899 3, 753, 276 1, 392, 134 659, 956 5, 859, 185 288, 288 3, 426, 275 2, 484, 228 1, 467, 132 11, 280, 652 535, 790 126, 696	\$7, 311, 925 28, 242 4, 867, 142 4, 867, 142 4, 867, 142 4, 867, 142 5, 221, 873 684, 410 248, 625 2, 471, 774 426, 695 163, 797 426, 695 64, 895 64, 895 64, 895 64, 895 64, 895 61, 322 192, 821 1, 363, 825 61, 352 19, 600
China, Japan, and East Indies. Africa and adjacent islands Hawaiian Islands All other countries and islands	155, 700 146, 070 150, 900 299, 615	15, 598 15, 069 14, 679 31, 110	75, 044 55, 138 208, 028 48, 325	13, 212 7, 059 35, 199 7, 837	14, 400 354, 593 204, 250 130, 515	2, 122 49, 558 30, 763 17, 292
Total year ended June 30— 1883 1882 1881 1880 1879	62, 116, 302 80, 447, 466 107, 928, 086 95, 949, 780 84, 401, 676	6, 192, 268 7, 201, 270 8, 372, 285 5, 930, 252 4, 807, 568	340, 258, 670 468, 026, 640 746, 944, 545 759, 773, 109 732, 249, 576	38, 155, 952 46, 675, 774 61, 161, 205 50, 987, 623 51, 074, 433	224, 718, 474 250, 367, 740 378, 142, 496 374, 979, 286 326, 658, 686	26, 618, 048 28, 975, 902 35, 226, 575 27, 920, 367 22, 856, 673

The following table shows the weekly exports of hog product from the principal Atlantic ports during 1883, compiled from current weekly returns, but not official:

Week	I	From New Yor	k.		Portland, Phila w Orleans, and l	
ended-	Pork.	Bacon and hams.	Lard.	Pork.	Bacon and hams.	Lard.
Tom 0	Barrels. 4,590	Pounds.	Pounds. 7, 346, 131	Barrels. 1,373	Pounds. 7, 706, 500	Pounds. 2,991,748
Jan. 6	5,480	11, 546, 863 11, 852, 117	3, 255, 284	812	4, 198, 615	1,997,980
20 27	4,831 8,743	9, 168, 920 7, 476, 379	3, 346, 505 4, 945, 911	2,582 1,456	2, 784, 276 4, 575, 800	894, 254 2, 235, 210
Feb. 3	4,477	6,828,636	3, 784, 885	400	3, 642, 483	1, 443, 345
10 17	4,470 3,594	8, 555, 488 6, 598, 480	3, 265, 028 3, 666, 013	850 608	4, 234, 884 1, 813, 364	1,930,906
24	3,500	7, 297, 641	2, 141, 727	1,705	2, 111, 929	2, 797, 572 1, 612, 386
Mar. 3	3, 176	6, 980, 779	4,521,478	1,177	2,080,735	1,251,858
10 17	4, 056 4, 185	7, 226, 877 7, 822, 210	2, 627, 330 4, 067, 343	850 682	3, 742, 729 1, 479, 406	259, 601 465, 560
24	3,621	4, 790, 481	2, 174, 608	1,026	3, 497, 356	216, 977
Apr. 7	2,280 3,614	3,970,060 5,377,156	3, (633, 023 2, 586, 074	1,032	1, 836, 166 5, 188, 879	512, 798 810, 879
14	4,319	4,810,434	2, 539, 182	1,455	2,568,027	306,700
21 28	3,314 4,154	4, 997, 330 4, 430, 453	4, 167, 252 4, 327, 087	1,845	2, 993, 106 1, 386, 000	512,074 313,418
May 5	2,401	3,576,874	2,059,772	488	2, 320, 150	495, 601
12 19	3, 144 3, 240	2,466,564 2,561,544	2, 465, 679 2, 156, 875	1,202	1, 338, 539 1, 060, 333	643, 930 1, 709, 940
26	1,789	2,587,435	2, 157, 028	893	1, 421, 065	1,565,474
June 2	1,523 2,223	2,003,804 2,883,515	2, 646, 772 2, 588, 139	994 1,181	1,407,925 2,235,970	500, 526 985, 305
16	2,883	2, 153, 964	2,621,648	362	908, 783	493, 314
23 30	2,094 3,504	3, 357, 003 2, 316, 506	2,766,038 4,376,733	167 994	2,047,918 2,996,761	275, 813 620, 699
July 7	2,970	2,803,531	3, 825, 536	1,411	2, 353, 600	2,624,069
14 21	2, 950 3, 272	3, 114, 302 3, 716, 134	7, 628, 762 7, 184, 215	1,107 1,113	2, 645, 967 3, 366, 535	5, 161, 007 7, 075, 946
28	3,640	3, 622, 784	6, 392, 057	4,015	6,017,080	8, 221, 061
Aug. 4	3, 955 2, 171	5, 341, 871 4, 820, 687	6, 788, 266 4, 836, 339	2, 202 301	3, 978, 045 5, 094, 019	3, 857, 639 2, 936, 286
18	3,089	5, 596, 746	5,630,870	1,473	4,577,882	1,719,875
25 Comb 1	2, 271 2, 533	5, 447, 195 4, 132, 348	5,160,990	585 1,708	3, 897, 556	858, 491
Sept. 1	1,259	5,586,981	6, 405, 536 4, 793, 285	2,235	3, 144, 025 2, 078, 785	766, 761 1, 673, 964
15 22	2,643	8, 455, 752	3, 437, 944	482	5, 273, 904 2, 244, 922	2,067,887
22	3, 216 3, 559	4, 128, 479 4, 797, 526	4,501,327 3,238,472	1,230 964	2, 244, 922	872, 203 1, 500, 602
Oct. 6	8,430	3, 484, 373	3,033,172	1,735	2, 315, 349	1, 327, 975
13 20	2, 664 3, 829	3, 778, 950 5, 626, 658	2,754,110 2,646,620	1,484 1,063	2, 083, 335 1, 962, 993	430, 690 357, 465
27	4,328	4, 803, 011	2, 104, 206	1,330	4,064,256	608,030
Nov. 3	4, 420 8, 345	4, 151, 073 3, 693, 208	2, 412, 176 4, 013, 180	2, 110 1, 817	2, 388, 059 2, 285, 827	415, 033 457, 777
17	5,309	4,626,850	6, 263, 899	1,495	2, 146, 586	789, 233
Dec. 24	4, 961 2, 262	4, 953, 031 7, 835, 103	4, 119, 020 5, 701, 249	672 862	2, 134, 700 5, 612, 313	902_490 669,658
В	4,704	6, 387, 833	4, 892, 115	1,992	4, 914, 395	1,520,235
15 22	5, 990 5, 424	9, 795, 311 8, 961, 520	9, 285, 550 2, 710, 976	846 383	5, 645, 010 2, 632, 806	2, 363, 217 862, 119
29	3, 768	7, 372, 085	2, 941, 404	1,250	3,770,882	1,825,991

Total exports of hog product from the principal Atlantic ports during the years 1879 to 1883, inclusive.

-		From New Yor	k.	From Boston, Portland, Philadelphia, Balti more, New Orleans, and Montreal.			
Year.	Pork.	Bacon and hams.	Lard.	Pork.	Bacon and hams.	Lard.	
1883 1882 1881 1880 1879	Barrels. 182, 167 184, 049 235, 731 282, 261 304, 880	Pounds. 275, 670, 855 214, 752, 919 349, 876, 366 511, 317, 129 503, 867, 149	Pounds. 208, 334, 821 180, 512, 147 233, 237, 428 293, 745, 050 243, 281, 844	Barrels. 62,533 40,824 53,782 58,969 55,206	Pounds, 160, 616, 311 117, 924, 128 265, 024, 067 288, 069, 645 236, 460, 063	Pounds. 74, 669, 581 53, 127, 403 68, 188, 948 97, 284, 391 84, 819, 335	

To show the progress made in exportation of products of agriculture in a half century or more, the following figures from the records of the Bureau of Statistics are given, taken from the Report of the Commissioner of Agriculture for 1883, page 328:

Year ended June 30—	Value of exports of domestic merchandise.	Value of exports of products of domestic agriculture.	of prod- ucts of agricul-
1820 1 1830 1 1840 1 1850 . 1860 . 1870 . 1880 . 1881 . 1882 .	\$51, 683, 640 58, 524, 878 111, 660, 561 134, 900, 233 415, 208, 341 823, 946, 353 883, 925, 947 733, 239, 732	\$41, 657, 678 48, 095, 184 92, 548, 067 108, 605, 712 361, 188, 483 683, 010, 976 729, 650, 016 552, 219, 819	80, 60 82, 18 82, 93 80, 51 81, 14 79, 34 82, 90 82, 55 75, 31

¹ Year ended September 30.

The increase in number of farms, in improved (or tillable) acres, and in the total area of land in farms is thus shown from the records of the national census:

Year.	Number of farms.	Improved.	Total.
1850	1,449,073 2,044,077 2,659,985 4,008,907	Acres. 113,032,614 163,110,720 188,921,099 284,771,042	Acres. 293, 560, 614 407, 212, 538 407, 735, 041 536, 081, 835

The product of corn is nearly three times as much as in 1849, while the wheat aggregate is more than four times as large. The progress in grain growing has entirely outstripped the advance in population. It is shown from the census exhibits as follows, though it should be remembered that the corn crop in 1869 was a comparative failure—25 per cent less than the acreage would have yielded in a good year:

Year.	Corn.	Wheat.
1849	Bushels, 592,071,104 838,792,742 760,944,549 1,754,591,676	Bushels. 100, 485, 944 173, 104, 924 287, 745, 626 459, 483, 137

The nations most affected by competitive exportation from the United States are Great Britain, France, and Germany. To show the principal American exports to those nations the following tables have been prepared from Reports of Commerce and Navigation, excluding the minor articles, which might extend the list without enlarging much the volume of quantity or value.

list without enlarging much the volume of quantity or value.

In the past ten years the exports to France have averaged \$58,457,124, a trifle more than the imports. The exports to Germany have averaged \$57,713,236; the imports, \$44,526,702. Great Britain and Ireland (the "United Kingdom") have been the best customers, buying annually to the value of \$374,088,360, and sending in return to the United States goods worth \$160,627,212, showing a difference of over \$213,000,000 per annum.

An examination of the details of this trade will illustrate the bearing of competition upon the agriculture of these countries:

	Valu	e of all expor	rts.	Value of all imports.			
Year.	Great Britain and Ireland.			Great Britain and Ireland.	France.	Germany.	
1873	\$316, 861, 874 345, 359, 584 317, 111, 142 336, 052, 060 345, 961, 055 387, 430, 730 348, 828, 439 453, 796, 497 481, 136, 078 408, 347, 155	\$33, 781, 506 42, 964, 311 33, 632, 727 39, 792, 702 45, 139, 918 55, 319, 188 89, 669, 627 100, 063, 044 94, 197, 451 50, 010, 818	\$61, 590, 047 62, 993, 225 50, 466, 025 50, 629, 072 58, 107, 433 54, 809, 845 57, 057, 245 57, 062, 243 70, 188, 252 54, 228, 953	\$237, 298, 218 180, 042, 813 155, 297, 944 123, 373, 281 113, 734, 258 107, 290, 677 108, 538, 812 210, 613, 694 174, 493, 738 195, 588, 602	\$33,977,200 51,681,886 59,773,148 50,959,577 47,556,292 43,378,870 50,684,601 69,344,412 69,806,375 88,897,606	\$61, 401, 756 43, 909, 852 40, 247, 712 35, 319, 462 32, 509, 365 34, 790, 103 35, 519, 818 52, 211, 237 52, 989, 181 56, 368, 542	
Total	3, 740, 883, 604	584, 571, 242	577, 132, 360	1, 606, 272, 127	566, 069, 977	445, 267, 023	

The following statistics from the Report of the Commissioner of Agriculture for the year 1883, page 352, are necessary to a complete view of this branch of the subject:

The value of agricultural exports of the past year (1883) is greater than those of any previous years except 1880 and 1881. The value of manufactures exported was absolutely greater than that of any previous year. It is a hopeful indication, as the prosperity of the American farmer depends upon that of American producers in other industries, and not upon the prosperity of foreign manufacturers. The following statement of progress in exportation is from the records of the Bureau of Statistics of the Treasury Department:

Year.	Value of exports of domestic merchandise.	Value of exports of products of domestic agriculture.	Value of exports of merchandise other than products of domestic agriculture.	Per cent of products of agriculture.
1820 ¹ 1830 ¹ 1840 ¹ 1850 1860 1870 1871 1872 1873 1874 1875 1878 1878 1878 1879 1880 1881	\$51, 683, 640 58, 524, 878 111, 660, 561 134, 900, 233 316, 242, 423 455, 208, 341 478, 115, 202 476, 421, 478 575, 227, 017 633, 339, 368 559, 237, 638 594, 917, 715 632, 980, 854 695, 749, 930 699, 538, 742 823, 946, 353 883, 925, 947 733, 239, 732	\$41, 657, 678 48, 005, 184 92, 548, 067 108, 605, 713 256, 560, 972 361, 188, 483 368, 466, 011 368, 796, 625 446, 900, 004 501, 371, 501 430, 306, 570 456, 113, 515 459, 734, 148 536, 192, 873 546, 476, 703 685, 961, 091 730, 394, 943 552, 219, 819	\$10, 025, 967 10, 429, 694 19, 112, 494 28, 294, 520 59, 681, 451 94, 019, 858 109, 649, 281 107, 624, 853 128, 327, 013 131, 1967, 897 128, 931, 088 138, 804, 200 173, 246, 706 159, 557, 057 153, 002, 039 137, 985, 202 153, 531, 004 181, 019, 913	80. 60 82. 18 82. 93 80. 51 81. 14 77. 07 77. 41 77. 69 79. 16 76. 95 76. 67 72. 63 77. 07 78. 12 83. 25 82. 63 75. 31

¹ Year ended September 30.

The proportions of exports by classes of industry for the past two years are as follows:

	1882).	1883.		
Products of—	Value.	Per cent of total.	Value.	Per cent of total.	
Agriculture. Manufactures. Mining (including mineral oils) Forestry. The fisheries. All other commodities	\$552, 219, 819 103, 132, 481 56, 278, 887 9, 138, 934 6, 197, 752 6, 271, 859 783, 239, 782	75. 31 14. 07 7. 67 1. 25 . 85 . 85	\$619, 269, 449 111, 890, 001 51, 444, 857 9, 976, 143 6, 276, 375 5, 366, 807 804, 223, 632	77.00 13.91 6.40 1.24 .78 .67	

Value of products of domestic agriculture exported from the United States to foreign countries during the years ending June 30, 1882 and 1883.

Articles.	Fiscal year 1882.	Fiscal year 1883.
Animals, living: Hogs Horned cattle. Horses Mules Sheep All other, and fowls Bones and bone dust Bread and breadstuffs: Barley Bread and biscuits Indian corn Indian-corn meal Oats Rye Rye flour Wheat Wheat flour Other small grain and pu'se Maizena, farina, and all other preparations of breadstuffs used	\$509, 651 7, 800, 227 470, 183 320, 130 603, 773 225, 147 41, 266 151, 575 781, 292 28, 845, 830 994, 201 208, 349 946, 086 28, 593 112, 929, 718 36, 375, 035 664, 687	\$272, 516 8, 341, 431 475, 806 486, 560 1, 154, 856 58, 099 59, 103 299, 137 829, 281 27, 756, 082 980, 798 233, 843 1, 657, 998 4, 657, 998 198, 657, 998
Maizena, farina, and all other preparations of breadstuffs used as food Cotton, unmanufactured Fruits:	655, 142 199, 812, 644	987, 829 247, 328, 721
Apples, dried Apples, green or ripe Other fruit, green, ripe, or dried Preserved, in cans or otherwise Glue Hair, unmanufactured Hay Hemp, unmanufactured Hides and skins other than fur Hops Oil cake	228, 945 539, 543 322, 229 659, 681 46, 274 267, 643 190, 170 21 1, 449, 73 1, 456, 786 6, 302, 828	786, 800 1, 085, 230 447, 395 686, 517 62, 210 438, 897 261, 614 76 1, 220, 158 5, 616, 370 6, 061, 699
Oils, animal: Lard. Neat's foot, and other animal. Oils, vegetable:	434, 124 53, 736	353, 184 64, 405
Cotton seed Linseed Provisions: Bacon and hams Beef, fresh Beef, salted or cured Butter Cheese Condensed milk Eggs. Lard Meats, preserved Mutton, fresh Pork Onions. Potatees Other vegetables, raw, prepared, or preserved Rice	380, 260 36, 970 46, 675, 774 6, 768, 881 3, 902, 556 2, 864, 570 14, 058, 975 200, 490 28, 262 28, 975, 902 4, 208, 608 131, 641 7, 201, 270 61, 299 441, 816 309, 891 10, 109	216, 779 34, 468 88, 155, 952 8, 342, 131 8, 742, 282 2, 290, 665 75, 080 26, 618, 048 4, 578, 902 188, 172 6, 192, 268 4, 074 428, 478 222, 124 8, 679
Cotton Clover, timothy, garden, and all other Sugar, brown Tallow Tobacco, leaf Wax (bees') Wine Wool, unmanufactured Unmanufactured articles:	114, 683 4, 104, 917 4, 251 4, 015, 798 19, 067, 721 32, 325 67, 909 37, 327	108, 491 4, 311, 919 148, 957 3, 248, 749 19, 438, 066 17, 604 77, 280 22, 114
Bladders Bristles Broom-corn Bulbs Casings Cotton, in seed Cotton, short Peathers, crude Flax, tow of Grasses and flowers Honey, unstrained Hoofs Hors and horn-tips	6, 906 12, 180 170, 187 10, 834 271, 503 4, 384 16, 476 120 2, 655 19, 082 16, 505 35, 622 39, 622	5, 115 10, 053 173, 468 332 359, 446 1, 256 375 6, 312 27, 286 36, 594 54, 374
Mohair Nuts of all kinds	134	591

Value of products of domestic agriculture exported, etc.—Continued.

Articles.	Fiscal year 1882.	Fiscal year 1883.
Unmanufactured articles:		
Plants and trees	\$32,705	\$21, 172
Rennets	1.143	1,301
Rice-root	12,622	6, 900
Silk, raw		7, 136
Teasels	5,608	2,404
Vine cuttings (grape)	36,759	16, 804
Manufactured articles:		
Blood, prepared	8,936	2,600
Butter, imitation	312,854	271,699
Cider	9,810	36, 466
Cotton-seed meal	2,921	247, 464
Cotton-seed foots		801
Glucose (grape sugar)		196, 114
Glue, liquid		
Grease, not elsewhere specified	248,768	206, 432
Grease, pulp		4,500
Honey, strained	30,592	4,907
Horn strips and horn waste	5,555	
Linseed meal		420
Malt	12, 295	21, 208
Mill feed	30,665	39, 990
Oil-cake meal	58,730	7,547
Oils: Oleomargarine (the oil)	2,703,038	4, 273, 220
Olive butter		12,074
Poultry, dressed	173	
Silk waste and noils	21,571	9, 265
Sirup	2,763	1,204
Soap stock	44,243	26, 200
Sugar beet	896	40.000
Tallow, scraps	31,746	46, 730
Total value of exports of agricultural products	552, 219, 819	619, 269, 449

VALUE OF THE CORN CROP OF THE UNITED STATES.

The importance of this subject will be apparent if we look at it from another

standpoint, viz, the value of our corn crop.

The following table from the Report of the Commissioner of Agriculture of 1881-82, page 580, presents the annual estimates of acreage, product, and value for a series of years. The abnormal, extraordinary increase of recent years made it difficult to keep pace with advancing production, as is shown by the record for 1879, which is widely at variance with the census returns for that year. In other crops the difference is usually slight between the two records, but in the corn estimate it is evident that the Department figures are quite too low. The table should be studied in connection with the variable character of the seasons, and with the prices per bushel, as they will in the main bear close scrutiny and afford reliable evidence of comparative accuracy.

Calendar year.	Total produc- tion.	Total area of crop.	Total value of crop.	Average value per bushel.	Average yield per acre.	Average value of yield per acre.
1871 1872 1873 1874 1875 1876 1876 1877 1878 1879 1880	Bushels, 991, 898, 000 1, 092, 719, 000 982, 274, 000 850, 148, 500 1, 321, 069, 000 1, 283, 827, 500 1, 342, 558, 000 1, 388, 218, 750 1, 547, 901, 790 1, 717, 434, 543 1, 194, 916, 000	Acres. 34, 091, 137 35, 525, 836 39, 197, 148 41, 036, 918 44, 841, 371 49, 032, 364 50, 369, 113 51, 585, 000 53, 085, 450 62, 317, 842 64, 232, 025	\$478, 275, 900 435, 149, 290 447, 185, 020 550, 043, 080 475, 491, 210 480, 643, 400 441, 183, 405 580, 486, 217 679, 714, 499 759, 482, 170	Cents. 48. 2 39. 8 48. 0 64. 7 42. 0 37. 0 35. 8 31. 8 37. 5 39. 6 63. 6	Bushels. 29. 1 30. 7 23. 8 20. 7 29. 4 28. 1 26. 6 28. 9 29. 2 27. 6 18. 6	\$14. 02 12. 24 11. 41 13. 40 12. 38 9. 69 9. 54 8. 55 10. 93 10. 91 11. 82
Total	13, 662, 965, 083	525, 346, 204	5, 883, 068, 121			
Annual average	1, 242, 087, 735	47, 758, 746	534, 824, 375	43.1	26	11.20

The following table, from the report of the Commissioner of Agriculture for 1883, page 266, presents the summary for each State, showing the product, the area, and the value, etc.:

		Corn.		
State or Territory.	Bushels.	Acres.	Value.	
Maine	904, 400	30,987	\$832,04	
New Hampshire	870,700	37, 269	835, 87	
Vermont	1,930,300	56, 916	1, 814, 48	
Massachusetts	1,237,200	57, 120	1, 175, 34	
Rhode Island	277, 900	12, 100	255, 66	
Connecticut	1, 155, 800	57,577	1,109,56	
New York	21, 187, 500	769, 115	16, 314, 37	
New Jersey	9, 942, 800	343, 536	7, 556, 52	
Pennsylvania	43, 518, 800	1,388,245	30, 463, 16	
Delaware	3, 936, 600	208, 182	2, 322, 59	
Maryland	17, 904, 700	691, 542	10, 384, 72	
	35, 904, 000	1,881,568	19, 029, 12	
Virginia. North Carolina	34, 260, 700	2, 446, 056	18, 158, 17	
South Carolina				
	16, 356, 200	1, 361, 256	11, 122, 21	
Georgia	36,617,500	2,747,005	23, 801, 37	
Florida	3, 708, 900	392,073	2, 967, 12	
Alabama	31, 982, 500	2,300,341	19, 188, 50	
Mississippi	30, 233, 600	1,798,944	16, 628, 48	
Louisiana	14,636,400	790, 336	8, 781, 84	
Texas	63, 416, 300	3, 280, 329	36, 781, 45	
Arkansas	34, 485, 900	1,596,672	15, 863, 51	
Tennessee.	75, 188, 600	3, 119, 371	31, 579, 21	
West Virginia	14, 927, 000	588, 233	8,607,66	
Kentucky	75, 500, 900	3, 103, 248	39, 260, 46	
Ohio	93, 319, 200	2,977,680	57, 857, 90	
Michigan	28, 581, 600	929, 760	16, 863, 14	
Indiana	107, 484, 300	3, 438, 332	51,592,46	
Illinois	182, 336, 900	7,914,042	85, 698, 34	
Wisconsin	32, 201, 600	1, 117, 240	17, 066, 84	
Minnesota	21, 127, 600	661,050	9,507,42	
lowa	175, 487, 600	6,777,302	66, 685, 28	
Missouri	170, 037, 000	5, 763, 102	66, 614, 43	
Kansas	144, 452, 600	4, 280, 430	53, 447, 46	
Nebraska	82, 478, 200	2, 364, 120	27, 217, 80	
California	2,790,900	98,634	2, 372, 26	
Oregon	130,000	5, 450	104,00	
Nevada	18,000	830	16, 20	
Colorado	422, 400	21,076	580, 16	
Arizona	57,000	2,709	62,70	
Dakota	4,650,000	186, 247	2, 371, 50	
[daho	45,000	1,580	47,25	
Montana	18,000	492	18,90	
New Mexico	965,000	45, 594	1,061,50	
Utah	275,000	13,208	247, 50	
Washington	62,000	2,646	49,60	
Wyoming	010,000	m, 010	20,00	
Total	1,617,025,100	65, 659, 546	783, 867, 17	

The following table presents the acreage, product, and home value of the corn crop of the United States for the year 1880, as finally estimated by the United States Agricultural Department:

G		Corn.		
State.	Acres.	Bushels.	Home value.	
Maine	31, 00 36, 89 56, 30 55, 98 12, 10 55, 90 801, 60 347, 20 202, 12 678, 19 1, 899, 20 2, 253, 30 1, 263, 00 2, 384, 70 1, 828, 981 1, 590, 30 1, 283, 981 1, 590, 30 1, 283, 981	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	\$853, 17(1, 023, 323 1, 279, 134 1, 406, 49(326, 86 1, 215, 822 15, 900, 552 8, 236, 41(29, 576, 49) 3, 233, 922 10, 634, 019 18, 996, 600 19, 216, 144 9, 044, 344 15, 138, 077, 577 2, 983, 852 15, 195, 196	

G. I	-	Corn.	
State.	Acres.	Bushels.	Home value.
Texas Arkansas Tennessee West Virginia Kentucky Ohio Michigan Indians Illinois Wiseonsin Minnesota Iowa Missouri Kansas Nebraska California Oregon Colorado, Nevada, and the Territories	2, 670, 180 1, 294, 010 2, 788, 830 576, 900 2, 956, 700 855, 430 8, 810, 180 1, 023, 254 442, 230 6, 447, 180 6, 547, 180 1, 919, 600 80, 650 4, 850 181, 282	66, 754, 500 32, 350, 250 62, 489, 792 17, 307, 000 86, 089, 970 119, 910, 000 34, 816, 001 99, 229, 300 240, 482, 896 33, 767, 382 15, 478, 050 260, 192, 840 160, 463, 408 106, 218, 300 59, 507, 600 2, 580, 800 113, 005 5, 274, 947	\$35, 379, 885 15, 851, 622 22, 489, 125 8, 134, 290 32, 695, 189 49, 175, 4400 16, 015, 389 69, 563, 043 13, 169, 279 5, 572, 698 67, 650, 138 57, 766, 827 30, 803, 524 14, 876, 900 1, 961, 408 92, 604 8, 811, 501
Total for 1880 1878 1878 1877 1876 1875 1875 1874 1873 1872 1871	62, 317, 842 53, 085, 450 51, 585, 000 50, 369, 113 49, 033, 304 44, 841, 371 41, 036, 918 39, 197, 148 35, 526, 836 34, 091, 137	1,717,434,543 1,547,901,790 1,388,218,750 1,342,558,900 1,283,827,500 1,321,009,000 850,148,500 932,274,000 1,092,719,000 991,898,000	679, 714, 499 580, 486, 217 441, 153, 405 480, 643, 440 475, 491, 210 555, 445, 930 550, 043, 080 447, 183, 020 435, 149, 230 478, 275, 900

In order to present the comparative value of the corn crop, the following table is presented, showing the corn crop of the United States for the years 1882 and 1881. This presents the estimate of the United States Agricultural Department of the product of corn grown in the United States in 1882, and the final estimate for the same crop harvested in 1881:

Q1 1		1882.			1881.	
State.	Wheat.	Corn.	Oats.	Wheat.	Corn.	Oats.
Maine	512, 100	904, 400	1,776,750	617,000	1, 064, 000	2, 369, 00
New Hampshire	148,700	870, 700	1,030,000	175,000	1,262,000	1,030,00
Vermont	378,000	1,930,300	3, 445, 350	378,000	1,990,000 .	
Massachusetts	20, 100	1,237,200	703,000	19,000	1,406,000	703, 00
Rhode Island		277,900	155,800	260	327,000	164,00
Connecticut	43,600	1, 155, 800	1,048,380	89,000	1, 427, 000	1,038,00
New York	12, 145, 200	20, 687, 500	40,068,000	10,844,000	20,086,000	38, 160, 00
New Jersey	2,098,700	9, 942, 800	3, 808, 880	2,018,000	7,829,000	4, 052, 00
Pennsylvania	20, 300, 700	41, 518, 800	34, 721, 100	18, 797, 000	34, 599, 000	38, 579, 00
Delaware	1,200,600	3, 936, 600	391,840	1,044,000	2,940,000	316,00
Maryland	8,655,600	17, 904, 700	1,658,930	7, 213, 000	16, 277, 000	1,823,00
Virginia	8,311,400	35, 904, 000	3,551,420	7, 165, 000	27, 200, 000	4, 331, 00
North Carolina	5, 494, 800	34, 260, 700	5, 713, 400	4,579,000	26, 977, 000	4,081,00
South Carolina	1,729,000	15, 856, 200	4, 430, 140	998,000	8,809,000	3,098,00
Georgia	3, 812, 900	29, 617, 500	7, 235, 800	2,933,000	19,745,000	5, 566, 00
Florida	600	3,708,900		480	3, 170, 000	392,00
Alabama	1,700,800	30, 982, 500	3,994,900	1,479,000	20, 250, 000	3,073,00
Mississippl	250, 100	28, 233, 600	3,080,850	197,000	17, 646, 000	2, 185, 00
Louisiana	7,000	14, 636, 400	527,800	5,350	9,693,000	364,00
Texas	4, 173, 700	63, 416, 300	9, 239, 640	3, 339, 000	33, 377, 000	8, 324, 00
Arkansas	1,566,100	34, 485, 900	3, 131, 580	1,017,000	21,028,000	2, 337, 00
Tennessee	8, 971, 200	73.188,600	7, 129, 560	6, 408, 000	36, 232, 000	6, 726, 00
West Virginia	4,854,300	14, 927, 000	1,678,400	4, 413, 000	12,980,000	2,098,00
Kentucky	17, 250, 000	79,500,900	7,579,440	8, 625, 000	51,624,000	6, 531, 00
Ohio	45, 453, 600	93, 319, 200	16, 732, 154	38, 520, 000	79, 760, 000	25,009.00
Michigan	33, 315, 400	30, 081, 600	18,057,000	21, 220, 000	25, 068, 000	18,057,00
Indiana	45, 461, 800	107, 484, 300	18,696,090	31, 353, 000	79, 618, 000	15, 711, 00
Illinois	52, 302, 900	187, 336, 900	99, 141, 000	26, 822, 000	176, 733, 000	66,094,00
Wisconsin	20, 145, 400	30, 201, 600	34, 324, 400	17, 987, 000	29,040,000	31, 204, 00
Minnesota	37,030,500	21, 127, 600	29, 700, 000	35, 952, 000	16, 252, 000	23, 760, 00
owa	25, 487, 200	178, 487, 600	44, 555, 700	18, 248, 000	173, 289, 000	42, 434, 00
Missouri	27, 538, 600	174, 037, 000	30,073,560	20, 399, 000	93,069,000	22, 783, 00
Kansas	33, 248, 000	150, 452, 600	12,780,840	19, 909, 000	76, 377, 000	8,754,00
Nebraska	14, 947, 200	82, 478, 200	9,417,700	13,840,000	58, 913, 000	6,976,00
California	84, 546, 600	2,790,900	1,548,000	28, 406, 000	2,633,000	1,548,00
Oregon	12,039,300	101,000	4, 433, 520	12,673,000	101,000	5, 278, 00
Nevada	49, 400	11,700	193, 800	48,000	13,000	190,00
Colorado	1,598,200	422, 400	902,070	1,310,000	352,000	771,00
The Territories	16,000,000	7,500,000	9,000,000	11, 300, 000	5, 761, 000	7, 224, 000
PR-4-3	FOO 8'00 00'1	1 004 017 000	APP OFO POL	200 000 000	1 10/ 010 000	410 401 00
Total	502, 789, 300	1,624,917,800	475, 656, 794	380, 280, 090	1, 194, 916, 000	416, 481, 000

Crops of the United States for the year 1883. Preliminary (December 1) estimate of the United States Agricultural Department of the crops of wheat, corn, and oats produced in 1883.

	1								
		Wheat	t.		Corr	1.		Oats.	-
State or Terri-		Yield			Yield			Yield	
tory.	Acres.	per	Product,	Acres.	per	Product,	Acres.	per	Product,
	220200	bush.	bushels.	110100	acre,	bushels.	220200	acre, bush.	bushels.
		busii.			Jusu.			Dubii.	
Maine	43, 263	14.2	614,300	30, 367	35	1,062,800	84,579	31.5	2,665,000
New Hamp-					00				
Vermont	11,500 21,573		181,700 353,700		36 31	1,368,500 1,817,300	29,697 102,505	34.8	1,033,000 3,548,600
Massachusetts.	1,180	16.7	19,700	58, 262	35	2,039,100	23,098	31.3	
Rhode Island			94 900	12,947	32	414,300	5, 882	30.4	179, 100
New York	2,171 780,124	15.8 10.3	34,300 8,035,200	57,001 761,423	30	1,710,000 17,512,700	37, 141 1, 344, 637	29.6 31.3	1,100,700 42,071,400
New Jersey	154,000	13.4	2,063,600	346, 971	28	9, 715, 100	130,873	32.6	4, 265, 800
Pennsylvania	1,518,474 93,860	13.2 10.3	20,043,800		27 18	37, 857, 400	1,247,868	30.6 23.9	
Delaware	626, 200		966, 700 7, 577, 000	691, 542	23.5	3, 822, 200 16, 251, 200	21,664 100,323	20. 2	517,600 2,023,800
Virginia	928, 089	9	8, 352, 800	1,919,199	14	26, 868, 700	628, 434	10	6, 275, 600
North Carolina.	717, 100 218, 500	5.9 5.2	4,230,800 1,136,200	2,494,977 1,388,481	11.5	28, 692, 200 11, 107, 800	593, 890 362, 805	8.7 9.8	5, 142, 000 3, 544, 000
Georgia	504, 900		2,574,900	2,829,415	8.7	24, 615, 900	780, 682	9	7,018,700
Florida	000 100			399, 914	8.5		51,528	9.8	504, 500
Alabama Mississippi	276, 450 49, 500	5.2	1,437,500 247,500	2,277,338 1,870,902	11.5 13.5	26, 189, 300 25, 257, 100	427, 199 274, 236	10.6 11.5	4,517,300 3,142,400
Louisiana				924, 693	14.2	13, 130, 600	34,096	13.9	475,000
Texas	506,000 232,200		4,301,000 1,416,400		17,5 17.5	63, 146, 300 30, 456, 500	416,096 223,961	22.8 14.4	9, 489, 300 3, 225, 400
Arkansas Tennessee	1, 323, 000	5.6		3, 212, 952	20	64, 259, 000	586, 490	11.9	6, 997, 700
West Virginia	425, 700	10	4.257,000	588, 233	24.3	14, 294, 000	129,829	15.6	2,020,300
Kentucky	1,248,390 2,588,400		9,612,600 25,884,000	3, 258, 410 2, 818, 480	24 26.1	78, 201, 800 73, 560, 000	422, 628 871, 250	16.3 33.9	6, 899, 900 29, 560, 000
Michigan	1,786,506	14	25,011,000	911, 165	23.5		580, 451	34.6	
Indiana		10.4		3,541,482	27	95, 620, 000	717,560	29.7	
Illinois	1,593,900		22, 150, 000 19, 604, 900	8, 151, 463 1, 122, 826	25 21	203, 786, 500 23, 579, 300	2,848,555 $1,331,392$	30.4	102,780,000 $40,502,700$
Minnesota	2,597,940	13	33, 773, 200	727, 155	20.8	15, 124, 800	949, 200	33.1	31, 447, 500
Iowa	2, 435, 300 2, 358, 350				$24.3 \\ 27.5$	169, 629, 000 161, 655, 000	$\begin{bmatrix} 2,005,569 \\ 1,057,422 \end{bmatrix}$	34.1 28.7	68, 403, 600 30, 374, 200
Kansas	1,534,350	17.5	26, 851, 100	4,708,473	36.7	172, 800, 900	699, 476		
Nebraska	1,772,990				36	101, 278, 900	540, 161	40	21,630,000
California Oregon	2,794,000 795,300	13 16.5	36, 322, 000 13, 122, 400	100,607 5,504	24.5 23.5	2,464,800 129,300	70,858 170,993		1,826,600 4,211,800
Nevada	5, 424	18.3	99, 200	847	25	21,100	7,344	28.9	212, 100
Colorado	114,000	21	2, 394, 000	21,287 2,736	25 20	53 2, 100 54, 700	41, 250	29.3	1,209,000
Dakota	1,008,000	16	16, 128, 000	270,058	18.2	4, 915, 055	210,000	42.9	9,000,000
Idaho	57,796	16.3	049 000	1,627 502	20 20	32,500 10,040	30, 450 32, 200	37.4	1,140,000
Montana New Mexico	65, 195		942,000 977,900	46,506	20	930, 100	11,760	37.6 17	1,210,000 199,800
Utah	83, 130	19	1,579,400	13, 340	21	280, 100	24,050	22.7	546,000
Washington Wyoming		18.7	3, 182, 700	2,672	23	61, 400	62, 540	39.7	2, 480, 400
Total	36, 393, 319	11.5	420, 154, 500	68, 301, 889	2.27	1,551,066,895	20, 322, 622	28.1	571, 233, 400
		1							

The following statement shows the number of acres under cultivation in wheat, corn, and oats in the State of Illinois in 1881, by counties, also the product of each county, in bushels, by the latest estimate of the State department of agriculture:

· ·	Winter	wheat.	Spring	wheat.	C	orn.	Os	its.
County.	Acres.	Bushels.	Acres.	Bushels.	Acres.	Bushels.	Acres.	Bushels
Adama	QE 19E	794,500	1770	1 000	85, 239	0 707 849	95 119	1 190 04
AdamsAlexander	85, 125 6, 853	70, 814	178	1,602	6, 488	2,727,648 77,856	25, 112 321	1, 130, 04
Bond	32, 327	210, 125			38, 340	115.020	7,900	268, 60
Boone	1,456	11,648	1, 134	10,206	32,591	1,042,912	25, 380	761.40
Boone	24, 454	11,648 244,540			30,610	979, 520	5 001	761, 40 175, 03
Bureau Calhoun Carroll	1,553	12, 424	6, 267	56, 403	175, 577	4,038,271	38, 618	1,351,63
Calhoun	22, 118	199, 062 15, 745			13, 964 67, 168 28, 984	279, 280	1, 119	36, 92
Carroll	3,149	15,745	2,015	18, 135	67, 168	2,015,040	33.287	1, 331, 48 212, 05
Chamaian	12,934 30,000	84,071	452 300	6,780 2,700	28, 984	869, 520 4, 400, 000	5,049	1,890,00
Cass Champaign Christian Clark	49, 182	322, 500 271, 051		2,807	145 634	3, 203, 948	45,000 14,976	569 0
Clark	52.323	260, 615	307	2,001	145, 634 37, 497	262 479	4, 498	569,08 71,96
Clay Clinton Coles	40, 026	173, 446	401	36	29, 171	262, 479 87, 513	8,210	264, 10
Clinton	88,066	528, 396 207, 568			45, 140	90,280	16, 056	561,90
Coles	25, 946	207, 568	163	1,467	65, 128	1,042,048	8.349	250, 47
Cook Crawford Cumberland	174	2,610 267,157	2,422	31,486	46,052	1,013,144	54,800	1,644,00
Crawlord	50, 092	280, 147			30, 553	91,009	8,764	201,5
Dekalb	37, 353 375	1,875	809	16, 180	25, 0:22 99, 764	91, 659 100, 088 3, 591, 504	6, 453 44, 890	154, 85 1, 346, 70
Dewitt	8,561	96, 311	1,591	7,955	82,060	2 872 1(8)	16, 172	663, 0
Douglas	22,500	196, 875	441	3,969	75, 250	2,031,750	12,000	384.0
	274	4.110	574	8.610	21, 237	530, 925	20,644	825, 7 159, 4
Edgar	47,029	540, 833	140	1,260	70,322	1, 476, 762	5,315	
Edgar Edwards Effingham	28,689	143, 445	14	126	17.775	35, 550	1,582	49.0
Emngham	50,396	151, 188	41	369	40, 125 47, 973	240, 750	15, 268 12, 398	519, 1
Fayette	62, 129 509	279, 580 5, 090	101	909	125, 834	240,750 143,919 3,397,518	12,398 19,515	421, 5 702, 5
FordFranklin	26, 955	87,604	25	225	19,053	0,001,010	4,080	81.6
Fulton	26, 644	213, 152	3,300	19,800	80. 707	2,744,038	14, 494	565.2
Fulton	31,623	213, 152 189, 738	17	153	80, 707 28, 803	374, 439	1,154	27 60
Greene	44, 082	528, 984	111	999	41, 175	374, 439 1,317,600	2,339	70, 1
Greene Grundy Hamilton	347	3,470	23	207	68, 111	1,498,442	12,513	462, 3
Hamilton	35, 118	105, 354			21,489 102,990	21, 489	2,092	62.7
Hancock	31.672	348, 392	2,981	26, 829 63	102, 990	2, 574, 750	35, 968	1,007,10
Hardin Henderson	4,801 3,371	33,607	3,172	15,860	6, 193 52, 172 191, 348	49,544	1,071 12,569	17, 13 477, 63 1, 274, 70
Henry	804	25, 282 7, 236	4, 151	37 359	191 348	1,147,784 3,444,264	36, 420	1. 274. 7
Henry Iroquois	9,823	88, 407	308	37, 359 2, 772 765	229,653	5, 970, 978	46, 459	1,858.30
Jackson Jasper Jefferson	48,983	342, 881	85	765	23, 635	118, 175	2,462	51,70
Jasper	44, 146	198,657			34,754 37,221	69, 508	5, 758	115.1
Jefferson	63, 456 51, 747	203, 059				37, 221	8,852	239,00
Jersey Jo Daviess	3, 887	620, 964	1,475	10, 325	35. 137	667, 603 1, 612, 000	3,778	120, 8
Johnson	22, 164	31, 096 166, 230	1,410	10, 520	50, 375 16, 560	165, 600	32, 184 1, 764	1, 126, 4 44, 10
Kane Kankakee	157	3,140	569	5, 121	53, 771	1,720,672	25,645	1, 179, 6
Kankakee	2,653	39, 795	360	4, 320	109,732	2,743,300	35,772 22,721	1,216,2
Kendall	137	1,370	820	8,200	73.629	1,619,838	22,721	886.1
Knox	8,269	90,959	1,130 1,700	9,040	135, 050	3, 916, 450	43,610	1,744,4
Lake Lasalle	277	3,462	1,700	17,000	26, 439	634, 536	28,659	1, 146, 3
Lassille	1,777	35, 540 220, 092	2,781	27,810	237, 583	4,038,911 57,774 3,363,504	61, 178 2, 728	2, 417, 1: 54, 5
Lawrence Lee Livingston Logan	55,023 2,101	31,515	3,714	37, 140	28, 887 140, 146	3 363 504	58, 110	2, 324, 4
Livingston	838	9,218	121	1,089	268, 597	6 983 522	62, 667	2,381.3
Logan	26, 199	334, 037	779	7,790	140, 859	5,070,924	20,200	808,0
Macou	39,899	389, 015			127.840	3, 835, 200	24, 244	1,090,9
Macoupin	112, 271	1.010.439	182	1,638	90, 982	2,547,496	11, 112	444.4
Madison	152,900 51,903	1,834,800 259,515 12,168			72,500	942,500	14.150	452, 8
Marion Marshall	51,903	259,515	140	1 450	31,606 58,761	31,606	8,725 18,087	218, 1 669, 2
Mason	936 9,456	12, 168 40, 976	147	1,470	58, 761 61, 515	1,762,830 1,537,875	6,711	201,3
Mason Massac McDonough	17, 123	159, 815	852	6,816	12,911	90 377	1,382	34,5
McDonough	20,000	133 333	9,000	27,000	1483, (188)	90, 377 4, 000, 000	25,000	800,0
McHenry	462	133, 333 4, 774	3,495	41 940	38,830	931, 920	22, 422	896.8
McLean	5 000	57,500	600	4,200	250,000	9,750,000	80,000	3, 360, 0
Menard	18,001 2,840 60,048	168,009 25,560	1,064	4, 200 9, 576 87, 548	77, 049 97, 397	3, 236, 058	10,220	459.9
Mercer	2,840	25, 560	4,172	87,548	97, 397	2,240,131	29,381	1,028,3 150,0
Montgomany	80, 919	780, 624	0.4	576	16,118	241,770	6, 003 18, 728	730, 3
Morgan	89, 218 40, 000	624, 526 410, 000	2,178	19,602	107, 353 101, 297	1,073,530 4,153,177	18,728 10,160	558,8
Monroe Montgomery Morgan Moultrie	1,052	5, 260	78	702	61,540	1, 415, 420	8,326	333 0
Ogle	2.001	33, 972	1,919	15, 353	107, 404	3.329.524	59, 475	1,784.2
Peoria	7,450	99, 333	1,600	16,000	93 271	2, 425, 406	25, 380	1.010.2
Ogle Peoria	44, 400	242, 200			14, 196	2, 425, 406 14, 196	9,316	214,2
Piste	10, 217	102, 170	476	4,284	66,916	2, 141, 312	16, 132	806,6
	77, 446	542. 122	141	1,269	79, 442	1,668,282	6,855	236.2
Pope Pulaski	16, 229	81, 145 91, 176	******		22, 001 11, 600	264,012 127,600	5,000 600	85.0
Putnam Randolph	11,397	16, 155	1,403	7,015	28,872	635, 184	6, 430	7, 8 257, 3 334, 7
A WASSIELL	84, 993	467, 461	1,200	1,010	23, 646	189, 168	11, 158	001,0

G	Winter wheat.		Spring wheat.		Corn.		Oats.	
County.	Acres.	Bushels.	Acres.	Bushels.	Acres.	Bushels.	Acres.	Bushels.
Richland Rock Island Saline Sangamon Schuyler Scott Shelby Stark St. Clair Tazewell Union Vermilion Wabash Warren Wayne White Whitesides Will Williamson Winnebago Woodford	40, 572 277 28, 203 39, 93) 50, 932 24, 530 50, 90 414 158, 643 26, 565 26, 181 44, 347 72, 461 1, 278 47, 964 47, 964 1, 680 6, 670	121, 716 2, 770 155, 116 359, 370 251, 872 220, 770 150, 000 6, 640 1, 031, 179 40, 514 239, 085 270, 448 443, 470 151, 035 27, 046 471, 250 169, 543 252, 751 3, 064 12, 780 227, 829 33, 600 75, 600	2, 178 769 326 89 1, 342 255 1, 184 5, 035 1, 020 623 2, 670 437 1, 718 636 591 951	30, 492 6, 152 2, 934 801 12, 078 1, 275 1, 656 60, 420 12, 240 4, 590 16, 607 16, 020 3, 933 10, 308 5, 088	24, 338 52, 212 22, 722 212, 877 36, 074 30, 184 100, 030 68, 240 54, 945 74, 231 106, 767 20, 190 126, 756 31, 208 34, 208 34, 208 34, 208 34, 208 34, 208 35, 487 95, 412 113, 459 38, 827 65, 608 112, 947	24, 338 1, 044, 840 159, 054 4, 627, 957 1, 442, 960 1, 358, 280 2, 000, 000 1, 910, 720 714, 285 2, 939, 240 3, 233, 010 300, 040 2, 661, 876 84, 380 3, 344, 544 35, 000 115, 461 1, 194, 246 3, 063, 393 199, 135 2, 224, 240 3, 614, 304	6, 108 14, 759 1, 812 10, 023 5, 086 5, 086 5, 15, 155 20, 713 12, 610 4, 675 29, 175 29, 175 4, 000 15, 444 1, 425 38, 731 25, 000 4, 327 4, 426 4, 426 4, 426 4, 426 4, 426 4, 426 4, 427 4, 426 4, 426 4, 426 4, 426 4, 426 4, 426 4, 427 4, 426 4,	122, 160 473, 248 16, 398 390, 897 198, 364 48, 564 636, 510 824, 520 441, 350 72, 000 586, 872 29, 925 1, 285, 585 625, 000 151, 450 43, 272 1, 148, 036 2, 425, 325 90, 867 1, 362, 630 1, 613, 500
Total 1881 Same estimate for: 1880 1879 1878 1877	2,970,086 2,137,063 2,032,840	42,041,253 30,013,147	303, 736 291, 912	2,642,804 3,376,409 3,870,251	7, 195, 674 7, 574, 545 7, 918, 881 8, 672, 088 8, 935, 411	250, 697, 036 305, 913, 377 251, 149, 230	1, 922, 389 1, 749, 391 1, 631, 139 1, 757, 953 1, 556, 194	68, 844, 514 62, 709, 002 54, 664, 569 53, 424, 555 61, 145, 983

The following statistics regarding the consumption and distribution of corn and wheat-the latter being included in this report for purposes of comparison-is of value in the investigation of this part of the subject, and is taken from the Report of the Commissioner of Agriculture for 1883, page 310:

CONSUMPTION AND DISTRIBUTION OF CORN AND WHEAT.

For two years past efforts have been made for the first time to ascertain approximately the consumption of the corn and wheat supply of the year on the first day of March. The purpose is to show the rate of distribution, and to indicate the extent of consumption at that date. The result is exceedingly interesting and valuable. It reveals facts so numerous, so various, and local conditions of consumption so peculiar and diverse as to prove practically a revelation to local agricultural writers and to commercial editors. This is especially the case as to corn. Among the points presented are-

1. That the average stock of corn on hand at this date in a series of years is one-

third, two-thirds having been consumed on the farm or shipped away.

2. That nearly five-sixths of the corn shipped from the county where grown goes from seven States, known as the corn-surplus States; and most of the remainder

from Kentucky and Tennessee.

3. That 44 per cent of the corn is fed to cattle and swine (for meat making) in the counties where grown, 28 per cent is fed to work animals in the operations of the farm, and 8 per cent used as human food. Most of the 20 per cent shipped from the counties are also used in the East and South for the various purposes above named. This would make the distribution nearly—

above hamon. This would make the distribution hearry	Per cent.
For feeding for meat	
For feeding for work	
For human food	
For exportation	
For spirits, glucose, starch, seed, and waste	0

4. That in the South about half is used for work animals and a fourth for meat, while in the West half goes for making meat and one-fifth for farm work.

5. That the above diversities as to use in home consumption make large difference in the time of consumption. In the South 43.5 per cent remained on hand March 1, because of the large crop and its required use for five months of spring and summer plowing.

The smaller former average in the South, 35.9 per cent, is not because of a change in the usage as to consumption, but because the smaller former supply was earlier exhausted, and purchases from the West large after that date. In the West only a third remained on hand, because the heaviest feeding comes in autumn and early winter.

Corn.

Proportion on hand March 1.—The returns of March 1, 1893, showed that about 36 per cent of the crop still remained in the hands of the growers, or about 558,000,000 bushels of 1,617,000,000 bushe's representing the crop of 1882. Nearly two-thirds of this amount was in the Western States, and about three tenths in the Southern States.

Comparing with an average of the five preceding years, one of which (1881) was a year of great scarcity, we find that New England had less than that average; the Middle States 37.4 per cent. the average being 36.7; the Southern States 43.5 per cent instead of 35.9; the Western States only a fraction more than such average, or 33.8 per cent in place of 32.9 per cent; the Pacific coast 25.1, the average being 24.5 per cent, and the Territories 35 per cent, a very large increase due to the development of corn culture in Dakota. The following statement shows these percentages and the quantities they represent:

Continue	Production.	Stoc	Average	
Sections.	Bushels.	Per cent.	Bushels.	for five years.
New England Middle Southern Western Pacific Nevada, Colorado, and Territories	6, 376, 300 78, 585, 700 394, 695, 300 1, 127, 934, 500 2, 900, 900 6, 512, 400	29.8 37.4 43.5 33.8 25.1 35.0	1, 898, 701 29, 397, 288 171, 551, 062 381, 600, 606 741, 908 2, 282, 552	32. 6 36. 7 35. 9 32. 9 24. 8 25. 5
Total	1,617,025,100	36.3	587, 472, 117	33.

It is seen that the only stocks contributing appreciably to the aggregate are those of the West, South, and the Middle States. The statement by States and Territories is as follows:

	Product in 1882.	Stock on Mar. 1, 1	cent for	
States.	Bushels.	Bushels.	Per cent.	Per cer five ye
Maine New Hampshire Vermont Massachusetts Rhode Island Connecticut New York New Jorsey Pennsylvania Delaware Maryland Virginia North Carolina South Carolina Georgia Florida Alabama Mississippi Louisiana Texas Arkansas Tennessee West Virginia Kentucky Ohio Michigan Indiana Illinois Wisconsin Minnesota Lowa Massas Missonsin Minnesota Illinois Wisconsin Minnesota Illinois Wisconsin Minnesota Indiana Illinois Wisconsin Minnesota	904, 400 870, 700 1, 930, 300 277, 900 277, 900 21, 187, 500 9, 942, 800 3, 936, 600 17, 904, 700 35, 904, 000 36, 518, 500 36, 617, 500 37, 708, 900 31, 982, 500 30, 233, 600 31, 4636, 400 63, 416, 300 14, 636, 400 63, 416, 300 75, 188, 600 14, 927, 700 75, 188, 600 14, 927, 700 75, 188, 600 14, 927, 700 75, 188, 600 14, 927, 700 175, 500, 900 93, 319, 200 182, 336, 900 93, 319, 200 107, 484, 300 112, 336, 900 121, 127, 600 177, 487, 600	253, 232 261, 210 656, 302 346, 416 69, 475 312, 496 7, 627, 500 1, 889, 508 1, 889, 508 1, 897, 115 15, 797, 760 15, 759, 922 6, 869, 604 18, 674, 925 1, 594, 827 15, 351, 600 14, 200, 792 23, 464, 631 1, 570, 212 6, 269, 349 27, 622, 568 88, 694, 348 88, 694, 348 9, 660, 480 6, 127, 044 6, 127, 044 6, 127, 044	28 30 34 25 27 38 38 45 44 46 42 41 48 47 39 36 37 42 42 41 42 41 42 41 42 41 42 41 43 43 44 44 44 42 41 42 41 42 41 42 41 42 41 41 41 41 41 41 41 41 41 41 41 41 41	9225273575554444455345554553432233822736

	Product in 1882.	Stock on Mar. 1, 1	ent for years.	
States.	Bushels.	Bushels.	Per cent.	Per cent five year
Missouri Kansas Neiraska California Oregon Newada Colorado Arizona Dakota Idaho Montana New Mexico Utah Washington Wyoming Indian Territory	57,000 4,650,000 45,000 18,000 965,000 275,600 62,000	51, 011, 100 47, 669, 358 35, 465, 634 13, 000 3, 600 160, 512 20, 520 1, 720, 560 13, 500 270, 200 64, 000 222, 320	30 33 43 26 10 20 38 36 37 30 30 28 24 36	28 30 38 25 10 18 33 32 25 28 22 28 25 22 33
Total	1,617,025,100	587, 468, 843	36.3	33.7

The largest proportions on hand are those of the Southern States. This is in accordance with intelligent expectation, not because there is any surplus for shipment, nor because more is consumed than in the West. On the contrary the requirements of that region are far smaller than of the States where pork and beef are made. The larger portion is used for feeding the horses and mules employed so constantly in plowing during the spring and early summer. Pork is not made for shipment, and only a partial supply for home consumption from mast, and the run of the pea field, and a limited supp'y of corn toward killing time. These conditions are reflected in the results of this inquiry, showing a great contrast with Western practice.

Consumntion.-Inquiry was made as to proportions used for specific purposes, to illustrate the rural economy of different sections of the country, under the following heads, viz: (A) Human food; (B) feed for work animals; (C) feed for crittle and swine; (D) shipped out of country where produced.

In the first inquiry the percentage would be expected to vary, from two causes—the amount produced per capita, and the comparative use of maize for human food, which differs greatly in the different States. In New England its use is quite limited and not confined to the home product; but very little is grown, so that the percentage is larger, though the quantity is not. In the South the quantity is greater, but less than in the West, so that 16 per cent is required in the former and but 5 in the latter States, though the aggregate Southern requirement is not very greatly in excess of Western—63,000,000 bushels against 56,000,000 bushels. The quantity of native corn reported as used for food in the South is 4.6 bushels per capita; in the West nearly 3 bushels. In the Middle States and in New England the native supply is supplemented by corn from other States, increasing the consumption as reported; the population is largely in cities and towns and the rural population small. The total reported as used for food in the country, of nearly 130.000.000 bushels, may probably be increased by 20,000,000 more from the column which reports corn "shipped out of the county" in which it is grown, making an aggregate of 150,000,000 bushels, or nearly 3 bushels per capita. This is very unequally distributed, some communities using twice this average, and others a scarcely appreciable quantity.

In the use of corn for feed of work animals is seen a marked difference between Western and Southern usages and rural methods. The per cent of corn used for this purpose in the Southern States is placed at 47.2. As the supplies brought from the West are almost entirely used for work animals or human food, the real proportion of corn consumption is fully one-half for such feeding. In the West it is one-fifth, or 20.9 per cent. Yet the quantity used is 235,000.000 bushels. larger relative use of corn for work animals in the South is due to the fact that plowing is almost continuous from March to July, inclusive: that more horses and mules are rejuired in proportion to work done, and corn is the principal feed. In the West there is less cultivation, wheat taking the place of cotton, and requiring no culture after planting, while horses feed upon hay as well as corn, and use oats much mo e extensively than in the South. Everything in crop and cultivation. in work and rations of animals, conspires to widen the relative requirement of

corn for work animals of these two belts of States.

The consolidation of returns makes the proportion used for feeding work animals 28 per cent. Taking into account receipts from beyond county (and State) lines the proportion may be stated at 30 per cent.

The third branch of consumption relates to meat production. It also includes to a limited extent milk production. Beef, pork, and mutton all require an increasing proportion of corn, supplementary to grass products and rougher forage in summer droughts and winter severities, especially in the finishing process, Eggs and poultry demand a share of the maize supply. Half of the crop in the West appears to be used as feed for cattle, sheep, and swine. Applying the percentage to the present crop, the grand volume of 557,000,000 bushels is indicated. As only one-fourth is shipped from counties where grown, and little more than one-fifth can be traced to Chicago, Toledo, New York, and all other distant markets, it is evident that the other fourth is ample for working animals and home food. When we recount the various uses of corn in every stage of cattle life, and for ripening 12,000,000 swine (more or less) for the packing trade, and some millions more for farmers' use and a further requirement for sheep and poultry, it would seem that 50 per cent of the Western crop might be used for these purposes. The use of corn for spirits has not been mentioned, because it is usually only about 1 per cent of the crop. Seed requires not more than 1 per cent. In this calculation it is proper to say that the entire crop is accounted for. Yet it should be remembered that the farmers' cribs were bare of corn at the beginning of the year and that they will not be so thoroughly exhausted at its end. However short the stock may be which Chicago is able to drain, there will be scattered through 20 States many million bushes more than existed there at the beginning of the year. The actual consumption (exc uding exportation, seed, etc.) will not much exceed 1,450,000 bush-This is more than an average consumption, even of recent years: but with rapidly increasing population, a large export demand, and the necessity for beef of earlier maturity and better qual ty, it will not be too large a quantity for the

Shipped from the county.—As the returns were made by counties, the portion shipped does not necessarily mean shipped to the seaboard or beyond State lines. It must include however, all such shipments. The aggregate of this branch of the inquiry is about 330,000.000 bushels, which is ample to account for exportation, eastern and southern shipments. and leave a margin for shipments short distances for local supply of towns and cities and the requirements of neighboring feeders. Seven-eighths of this county surplus is in the West. The largest quantity is in Illinois, and Kansas, Iow , and Missour; follow in order. Iowa's portion is greatly reduced by the very poor crop of lat year. Kentucky and Tennessee have a much larger surplus than usual.

The statement of this division of local consumption, according to specific uses,

is thus made:

Sections.	Hu	Human food.		Feed for work animals.		for cattle	Shipped from county.		
	P.ct.	Bushels.	P. ct.	P. ct. Bushels.		Lushels.	P. ct.	Bushels.	
New England Middle Southern Western Pacific Nevada, Colorado, and Territories	14 9.2 16 5 30.8 15.3	894, 089 7, 224, 526 63, 185, 261 56, 499, 363 898, 979 996, 397	29. 4 32. 7 47. 2 20. 9 24. 3 43. 1	1,873,651 25,755,430 186,306,987 235,227,078 701,625 2,806,844	54. 2 47. 3 26. 3 49. 4 34. 6	3,457,579 37,144,801 103,953,517 557,237,200 1,016,506 1,966,745	2.4 10.8 10.5 24.7 10.3	150, 981 8, 460, 943 41, 249, 535 278, 970, 859 303, 790 742, 414	
Total	8	129, 698, 615	23	452, 671, 615	43.6	704, 776, 348	20.4	329, 878, 522	

Allowing for the export reserve and for a moderate filling of the usual stocks held over (which were so depleted last year), and for the requisite conversion of corn into spirits, glucose, starch, and the seed for 65.000,000 acres or more to be planted, the actual consumption of the year for man and beast may thus be stated, after distribution of the remnant of the county surplus not required for the miscellaneous uses indicated above:

For human food	. 150,000,000
For feed of work animals. For feed for meat-producing animals.	520,000,000
For reed for meat-producing animals	760,000,000

1,450,000,000 Leaving for export, seed, spirits, and surplus 167, 025, 100

The returns by States are as follows:

States.	Human fo	ood.	Food for v		Food for cand swin		Shipped from county.		
	Bushels.	P. et.	Bushels.	P. et.	Bushels.	P. ct.	Bushels.	P. ct.	
Maine	198,968	22	721, 320	30	416,024	46	18,088	2 2 4	
New Hampshire	130, 605	15	235, 089	27	487, 592	50	17, 414	2	
Vermont	231, 636	12	540, 484	28	1,080,968	56	77,212	4	
Massachusetts	160, 836	13	420, 648	34	643, 344	52	12, 372	1	
Rhode Island	33, 348 138, 696	12 12	105, 602 300, 508	38 26	136, 171 693, 480	49 60	2,779	1 1 2	
New York	2.118,750	10	6, 356, 250	30	11, 653, 125	55	23,116 $1,059,375$	5	
New Jersey	795, 424	8	3, 778, 264	38	3, 977, 120	40	1, 391, 992	14	
Pennsylvania	3, 916, 692	9	14, 361, 204	33	20, 018, 648	46	5, 222, 256	12	
Delaware	393, 660	10	1, 259, 712	32	1,495,908	38	787, 320	20	
Maryland	1,611,423	9	6, 445, 692	36	5, 908, 551	33	3,939,034	22	
Virginia	5, 744, 640	16	13, 643, 520	38	11, 130, 240	31	5, 385, 600	22 15	
North Carolina	6, 852, 140	20	13,704,280	40	9, 935, 603	29	3,768,677	11	
South Carolina	4, 089, 050	25	9, 159, 472	56	2,944,116	18	163, 562	1	
Georgia	8,788,200	24	16, 844, 050	46	8,055,850	22	2,929,400	8	
Florida	927, 225	25	2, 114, 073	57	519, 246	14	148, 356	4 6	
Alabama	7,036,150	22 21	16, 311, 075	51	6, 716, 325	21	1,918,950	6	
Mississippi	6, 349, 056	20	16,023,808	53	6,651,392	22	1,209,344	4 4 7	
Louisiana	2,927,280 7,609,956	12	8, 781, 840 36, 147, 291	60 57	2, 341, 824 15, 219, 912	16 24	585, 456	4	
Texas	4, 483, 167	13	19, 312, 104	56	8, 966, 334	26	4, 439, 141 1, 724, 295	5	
Tennessee	6, 766, 974	9	27, 819, 782	37	25, 564, 124	34	15, 037, 720	20	
West Virginia	1,791,240	12	5, 970, 800	40	6, 120, 070	41	1,044,890	7	
Kentucky	6,040,072	8	24, 160, 288	32	32, 465, 387	43	12, 835, 153	17	
Ohio	5, 599, 152	6	25, 196, 184	27	46,659,600	50	15, 864, 264	17	
Michigan	2, 572, 344	9	8,860,296	31	15, 434, 064	54	1,714,896	6	
Indiana	5, 374, 215	5	25, 796, 232	24	52, 667, 307	49	23, 646, 546	22 32	
Illinois	7, 293, 476	4	32, 820, 642	18	83, 874, 974	46	58, 347, 808	32	
Wisconsin	2,576,128	8	7,084,352	22	18, 354, 912	57	4, 186, 208	13	
Minnesota	1,478,932	7	5, 704, 452	27	11, 408, 904	54	2, 535, 312	12	
Iowa	7,019,504	4	28, 078, 016	16	96, 518, 180	55	43, 871, 900	25	
Missouri	8,501,850	5 4	34,007,400	20 18	91,819,980	54	35, 707, 770	21 32	
Kansas	5, 778, 104 2, 474, 346	3	26, 001, 468 11, 546, 948	14	66, 448, 196 35, 465, 626	46	46, 224, 832 32, 991, 280	40	
California	865, 179	31	697, 725	25	948, 906	34	279, 090	10	
Oregon	33,800	26	3,900	3	67,600	52	24,700	19	
Nevada	00,000	20	0,000		01,000	CHO	WX, 100	10	
Colorado	50,688	12	215, 424	51	80,256	19	76,032	18	
Arizona	17, 100	30	28,500	50	11,400	20	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
Dakota	604, 500	13	1,999,500	43	1,534,500	33	511,500	11	
Idaho									
Montana									
New Mexico	250, 900	26	463, 200	48	154, 400	16	96, 500	10	
Utah	33,000	12	85, 250	31	112,750	41	44,000	16	
Washington	37,200	60	6,200	10	6,200	10	12,400	20	

The corn-surplus States.

Practically we have only to consider the surplus-corn States in an inquiry concerning the corn of commerce or current and prospective prices. Commercial prices are made by the production of seven States. In addition to these, Kentucky and Tennessee usually add something to this surplus, ordinarily not enough to affect prices. In two of these seven. Illinois and Iowa, the crop of 1882 was not much superior to that of 1881, and the available supply of the present year actually less than that of last year, which had a larger stock left over from the previous year's supply. The local prices in those States are therefore comparatively high. The following statement shows the proportion and quantity on hand in those States March 1, 1883:

States.	Crop.	Stock.	Per cent.
Ohio Indiana Illinois Iowa Missouri Kansas Nebraska	Bushels, 93, 319, 200 107, 484, 300 182, 336, 900 175, 487, 600 170, 037, 000 144, 452, 600 82, 478, 200 955, 595, 800	Bushels. 27,062,568 38,694,348 67,464,653 52,646,280 51,011,100 47,669,358 35,465,626	29 36 37 30 30 33 43

The proportion of Illinois on hand at this date is ordinarily much larger than that of other States. In 1881 it was 45 per cent, or 35,000,000 to 40,000,000 bushels more than the present remainder. The percentage is about the same as that of 1882. Iowa has a smaller proportion on hand than last year, and less than half the number of bushels remaining on the 1st of March, 1881. The comparison of the stock on hand in the seven States is, in round numbers, as follows:

	Bushels.
March 1, 1893	320,000,000
March 1, 1882	
March 1, 1881	

PORK TRADE AT THE PACKING CENTERS.

Near'y one-third of all the hogs which go into the trade of this country are packed at Chicago, therefore a thorough study has been made of all that pertains to the handling of hogs for this market from the time they are purchased in the country until the meat is cured, packed, and shipped to the seaboard.

It will not be out of place to present here some carefully-prepared statements

of the provision business at Chicago:

Receipts and shipments of hogs (at Chicago) for twenty years.

37		Received.		Shipped.					
Years.	Live.	Dressed	Total.	Live.	Dressed.	Total			
1864 1745 1866 1866 1867 1868 1870 1871 1871 1872 1873 1874 1875 1878 1878 1878 1878 1878 1878 1878	757, 072 983, 233 1, 686, 689 1, 706, 592 1, 661, 869 1, 663, 158 2, 380, 083 3, 252, 623 4, 337, 750 4, 259, 629 3, 912, 110 4, 100, 006 4, 1025, 970 6, 399, 654 6, 448, 300 7, 654, 355 6, 474, 844 5, 817, 504	289, 457 92, 239 353, 683 260, 431 281, 923 190, 513 260, 214 272, 486 235, 915 233, 156 213, 635 2173, 012 148, 622 164, 339 102, 512 91, 644 89, 162 52, 835 36, 735 56, 538	1, 575, 328 849, 311 1, 286, 326 1, 987, 120 1, 988, 515 1, 852, 382 2, 652, 549 3, 488, 528 4, 570, 906 4, 472, 4085, 122 4, 338, 628 4, 190, 309 6, 442, 166 6, 539, 344 6, 525, 679 6, 527, 679 5, 854, 282 5, 697, 163	561, 277 575, 511 484, 793 760, 547 1, 020, 812 1, 086, 305 924, 483 1, 162, 286 1, 385, 594 2, 197, 557 2, 330, 661 1, 582, 643 1, 131, 635 951, 221 1, 286, 906 1, 692, 361 1, 904, 990 1, 289, 679 1, 747, 722 1, 314, 392	98, 115 69, 634 91, 396 156, 091 226, 901 199, 650 171, 188 169, 473 145, 701 200, 906 197, 747 153, 523 79, 654 94, 648 25, 639 40, 624 33, 194 46, 849 40, 196 44, 847	659, 392 644, 545 576, 699 916, 699 11, 247, 713 1, 245, 955 1, 695, 671 1, 381, 739 2, 528, 108 1, 736, 166 1, 211, 289 1, 045, 86 1, 7732, 385, 142 1, 7732, 385, 144 1, 336, 528 1, 787, 918 1, 787, 918 1, 787, 918 1, 787, 918 1, 783, 759			

Statement of bacon, hams, and dry-salted meats, pork, and lard inspected at Chicago for ten years ending 1881.

Years.	Bacon, hams, and dry-salted meats.	Pork.	Lard.
1872 1873 1874 1875 1875 1875 1877 1878 1879 1880	Pounds. 245, 288, 404 343, 896, 021 262, 931, 462 362, 141, 943 467, 289, 109 479, 936, 231 747, 289, 774 835, 629, 540 958, 036, 113 782, 963, 729	Barrels. 208, 664 191, 144 231, 350 313, 713 319, 344 296, 456 346, 366 354, 255 367, 324 316, 999	Pounds. 86, 040, 785 89, 847, 680 82, 209, 887 115, 616, 093 138, 216, 376 147, 000, 616 244, 323, 932 251, 020, 295 333, 539, 138 278, 531, 733

Pork packing in Chicago for the last twenty years, March 1 to March 1.

Season.	Number of hogs packed.	Season.	Number of hogs packed.
1863 - 64 1864 - 65 1865 - 66 1866 - 67 1867 - 68 1868 - 69 1869 - 70 1870 - 71 1871 - 72 1872 - 73	904, 659 760, 514 507, 355 639, 332 796, 226 597, 954 688, 140 919, 197 1, 225, 226 1, 456, 650	1878-74 1874-75 1875-76 1876-77 1877-77 1877-79 1879-90 1890-81 1880-81 1881-82 1882-83	2, 320, 846 2, 933, 486 4, 009, 311 4, 960, 956 4, 680, 637

A special investigation has also been made of the methods and conditions which obtain at each of the large packing centers of the country, and as our facts for each of these have been drawn from different sources, and the statements care-

fully compared, it is believed that they are entirely reliable.

The members of the commission have made a personal inspection of the stock yards, the principal slaughterhouses, the stock trains in transit, and as they reach the respective stock yards. Carefully prepared sets of interrogatories were furnished the railroad companies, the stock-yard corporations, and the packers, which covered instructions to railroad agents, stock contracts, and care of hogs in transit, their care and condition at the stock yards, and the slaughter, curing, inspec-The information thus obtained from different parties has been tion, and packing. compared and confirmed by careful reports from the officers of the boards of health exercising supervision at the respective districts where are located the stock yards and packing houses and the intelligent inspectors of the humane association. special agent familiar with the trade has also been employed to follow it through all its intricate ramifications. In order to obtain full and trustworthy information on the many important points connected with this subject, it has been found necessary to gather the facts from different sources and through various channels and to confirm and extend our own knowledge thus acquired by the aid of experts who have long been familiar with the various branches of this business.

In all cases the statements of interested parties have been controlled by our own observations or by the investigations of other disinterested persons, and generally

Interrogatories were prepared to cover the respective subjects of investigation. copies of which are inserted with their respective topics.

TRANSPORTATION OF HOGS FROM SHIPPING POINTS TO STOCK YARDS.

The following interrogatories on railroad transportation were personally presented to the several railroad companies, and information covering the various points of investigation was in all cases fully and cheerfully granted: 1. Are dead hogs ever allowed to be transported?

2. Are diseased hogs allowed to be transported?

3. If transported, to what points are they carried?
4. It has been stated that "hogs which have died of cholera have been shipped to Chicago to be cured and packed." Are you aware of such being the fact?

5. Does the station agent examine hogs as to their condition before receiving them?

6. Has he authority to reject any hogs?

7. Would hogs in following condition ordinarily be received for transportation? a. Diseased.

b. Bruised.

c. Over-fatigued, feverish. d. Piggy (pregnant) sows.

e. Hogs evidently needing food or water.

8. What is the rule as to the number of hogs to be loaded into a car? 9. What is the nature of the bill of lading given? Please give blank form.

10. Is the condition of the hogs usually specified in bill of lading?

11. Do your railroad regulations compel your employees to look after the hogs

12. What care do hogs have while in transit?

13. Does the owner or shipper accompany the hogs?

14. What are the regulations regarding this?

15. What examinations of the hogs are made in transit for injury, bruising. smothering, and death?

16. What food is given them?

17. How frequent 18. Of what quality?

19. How much?

20. What care is taken as to condition or quality of water given?21. How often are they watered?22. What quantity is given?

22. What quantity is given?23. Is water ever used for cooling the hogs?

24. Under what circumstances, and what regulations and arrangements have you therefor?

25. What is the ordinary length of journey allowed? 26. How are the cars prepared for transporting hogs?

27. How often are the cars cleansed?

28. How are they cleansed?

29. Is any special care taken to disinfect cars in which diseased hogs have been carried? The important relations which the railroads bear to the subject under investi-

gation will appear from the following statement from page 284 of the recent

report of the Department of Agriculture, dat-d November 10, 1883: The Chicago, Burlington and Quincy Railroad transported about one-third of the cattle to Chicago. It runs through a corn belt perhaps unsurpassed in the United States, which continues to maintain its superiority as a source of cattle The Chicago and Northwestern still maintains second rank as a feeder to the great cattle mart. Chicago, Rock Island and Pacific is third. and Chicago

and Alton fourth, as in the previous year, while the Wabash has changed places with the Milwaukee and St. Paul during the last year. The receipts come by the following routes:

Total receipts by railway lines for 1882.

Road.	Cattle.	Calves.	Hogs.	Sheep.	Horses.
Baltimore and Ohio. Chicago and Alton Chicago, Burlington and Quincy Chicago and Eastern Illinois Chicago and Grand Trunk Chicago and Grand Trunk Chicago, Milwaukee and St. Paul Chicago, Rock Island and Pacific Illinois Central Lake Shore and Michigan Southern Louisville, New Albany and Chicago Michigan Central New York, Chicago and St. Louis Pittsburg, Cincinnati and St. Louis Pittsburg, Fort Wayne and Chicago Wabash, St. Louis and Pacific	26, 403 1, 951 154, 873 223, 678 212, 884 95, 415 4, 474 7, 611 3, 090			8, 526 66, 639 168, 181 15, 013	Number. 176 1, 723 2, 416 866 880 1, 631 1, 032 1, 764 59 728 301 159 1, 259

Total shipments by railway lines for 1882.

Railroad.	Cattle.	Calves.	Hogs.	Sheep.	Horses.
Baltimore and Ohio Chicago and Alton Chicago, Burlington and Quincy Chicago and Eastern Illinois Chicago and Eastern Illinois Chicago and Grand Trunk Chicago, Milwaukee and St. Paul Chicago, Rock Island and Pacific Illinois Central Lake Shore and Michigan Southern Louisville, New Albany and Chicago Michigan Central New York, Chicago and St. Louis Pittsburg, Cincinnati and St. Louis Pittsburg, Fort Wayne and Chicago Wabash, St. Louis and Pacific	5, 257 3, 858 47, 691 13, 642 16, 764 21, 780 10, 424 272, 778 706	3 837 1,678 212 40 1,082 1,795 1,342 1,410	Number. 27, 794 514 1114 282 22, 241 280 3, 825 2, 955 865, 074 263 559, 459 264, 302 264, 302 264, 302	1,035 2,052	Number. 290 61 198 48 290 8,654 2,560 181 95 8,635 1,017

Shipments eastward.

The shipments eastward have augmented more rapidly than population. Philadelphia has made the largest relative gain in cattle, though the absolute increase in numbers is, of course, made by New York. The receipts of veals in New York have increased from 91,529 in 1869 to 190,582 in 1882.

The New York Produce Exchange record of these shipments is as follows: In the record for swine the most noticeable change is the remarkable movement to Boston, which is now nearly equal to the aggregate receipts of Philadelphia and Baltimore.

Receipts of hogs at the seaboard cities.

Year.	New York.	Boston.	Philadelphia.	Baltimore.	Total.
1869	1, 388, 517 1, 222, 657 1, 268, 596 1, 794, 539 1, 725, 537	Number: 167, 558 189, 330 351, 307 602, 625 854, 507 587, 721 331, 989 361, 317 330, 604 510, 432 582, 615 691, 839 708, 900	Number: 176, 200 189, 500 199, 610 210, 276 344, 300 243, 300 289, 900 242, 400 341, 450 346, 960	Number. 250, 516 300, 000 350, 000 314, 269 392, 734 279, 631 259, 064 322, 945 260, 514 356, 524 336, 867	Number: 1, 495, 996 1, 568, 456 2, 211, 193 3, 050, 897 3, 549, 939 3, 059, 077 2, 243, 437 2, 132, 932 2, 164, 544 2, 847, 544 3, 006, 122 3, 094, 808

Hogs for the trade are gathered together at the various shipping points on the railway lines. When loaded into the cars, if any have died from any cause while awaiting shipment, which seldom occurs, the dead animals are placed in the cars and the railroad agent notes on the way-bill the number of "live" and the number of "dead hogs." Some railroad companies state that such dead hogs would not be carried by them; others would carry them only to points where there are off alrendering establishments. We have been unable to learn, after careful investigation, of any special shipment of hogs which have died from disease to any of the cities where hogs are packed, or even from country districts to city off alrendering works. Some roads, however, provide for the transportation of hogs which have died from disease, provided they are solidly frozen.

We herewith append the "Classification on dead hogs" in use by the Chicago

and Northwestern Railway Company.

By this classification less than carload lots of dead hogs are placed in third class, the same as in the case of live hogs; but in carload lots live hogs go in class 4, while carload lots of 20,000 pounds dead hogs are placed in Class C. The difference in rates may be understood by the following example: Between Huron (S. Dak.) and Chicago the rate for class 3 is 90 cents per hundred; for class 4, 70 cents, and for C, 35 cents.

In connection with the classification on hogs that have died from disease, it may be desirable, for general information, to give the special rates on live hogs from Western to principal Eastern points. They are made on carload lots, either ordinary or refrigerator cars; in the latter case the through rates being 5 cents higher per hundred pounds. The minimum weight of hogs per carload by the Baltimore and Ohio classification is 22,000 pounds per double-decked car, and 16,000 pounds per single-decked car. The winter rates (December) of this company are as follows:

	To Baltimore from—				To Philadelphia from—			
Articles.		Milford Junction.	Sandusky.	Newark.	Chicago.	Milford Junction.	Sandusky.	Newark.
Hogs: Dressed, refrigerator cars, O. R. per 100 lbs. Dressed, ordinary carsdo	66 61	64 59	52 47	494 444	67 62	65 60	53 48	501 451

	To N	lew Y	ork fr	om-	To Boston from-			
Articles.	Chicago.	Milford June-	Sandusky.	Newark.	Chicago.	Milford Junc- tion.	Sandusky.	Newark.
Hogs: Dressed, refrigerator cars, O. R. per 100 lbs Dressed, ordinary carsdo	69 04	67 62	55 50	524 474	74 69	72 67	60 55	57‡ 52‡

The Pennsylvania Company's rates for December are as follows:

	Chicago to-					East St. Louis to—				
Articles.		New York.	Philadelphia.	Baltimore.	Washington.	Boston.	New York.	Philadelphia.	Baltimore.	Washington.
Hogs: Dressed, common cars, O. R., C. L per 100 lbs. Dressed, common cars, O. R., L. C. L per 100 lbs.	64 64	64 64	62 62	61 61	61 61	74 74	74 74	72 72	71 71	71 71

O. R.-Owner's risk; C. L.-Carload; L. C. L.-Less than carload.

In inserting these and other tables the commission have deemed it important that all regulations relating to transportation of animals, to the health of the community, should be laid before the public in condensed and available form.

[1882-G. F. D. No. 398.]

CHICAGO AND NORTHWESTERN RAILWAY COMPANY, GENERAL FREIGHT DEPARTMENT, Chicago, December 14, 1882.

To agents:

The following will be classification on dead hogs:

Do not receive them for shipment unless frozen solid.

WILLIAM S. MELLEN, General Freight Agent.

HENRY C. WICKER, Freight Traffic Manager.

(Fill up this Form and return it at once. Do not wait to be asked for it.)

[1882.-F. G. D. No. 398.]

—— Station, No. —, —— —, 1882. Received copy of G. F. D. No. 398, dated December 14, 1882.

Agent

To WILLIAM S. MELLEN, General Freight Agent, C. & N. W. Rwy., Chicago.

Where hogs have died in considerable numbers, as they have sometimes done in country districts from swine plague, etc., they are either disposed of to be "rendered as offal" in the locality or are buried. Diseased hogs offered for shipment, if discovered, would be refused by some transportation companies. As a matter of fact, hogs in such condition are seldom offered for shipment, as they would be nearly certain to die before reaching the end of the route, and would cause the whole lot to be looked upon with suspicion and greatly reduce the amount real-

ized from them. While, therefore, it is probable that hogs in the first stages of disease might be and possibly at times are shipped in railway lines, it must seldom occur, for the reason it does not pay. The animal would be either dead or too obviously sick to deceive buyers, even before it reached the city stock yards.

The following question, being No. 4 of the interrogatories in the foregoing list, has been asked of the several railroad companies, agents of the humane societies,

and boards of health, and employees of the stock yards, viz:

"It has been stated that 'hogs, having died of cholera, have been shipped to Chicago to be cured and packed.' Are you aware of such being the fact?" This question has uniformly been answered in the negative. The skin and flesh This question has uniformly been answered in the negative. of such hogs is very much discolored, and if slaughtered and attempted to be cured the meat from them would be easily and at once detected. Our special agent, inspectors of the humane and health boards, and the packers deem it impossible for such animals to be slaughtered. The flesh would not cure without that incipient putrefaction taking place which produces what is known in the trade as "sour meat."

As a rule, the station agents of the different railroads do not examine hogs for diseases, bruises, etc., before receiving them for transportation: if discovered, however, they have specific instructions to reject them for these causes. The quality and condition of the hogs and number to be loaded into the car are left almost exclusively to the judgment of the shipper, who is generally the owner of the hogs, subject to the rules of the railroad companies. The number shipped in a car varies with the size of the hogs and also of the car from 45 to 70 head, but as a rule is from 50 to 65. The condition of the hogs is not clearly specified in the bill of lading, and if the shipper or his agents accompany the stock the care of this is not assumed by the railroad employees. On some roads the shipper seldom avails himself of the privilege granted by all railway companies of allowing transportation for one man to accompany every two cars of stock. On other roads the shipper usually accompanies the animals and cares for them. Some companies instruct their employees to be particular in examining the hogs when stops are made, but such is not true of all the roads.

There are here inserted the ordinary forms of "live-stock contracts" in use by

the several railroads in this country.

[Form 1134—8—'83—100M. The Missouri Pacific Railway Company and leased and operated lines. Rules and regulations for the transportation of live stock.]

No station agent of this company has any power or authority to bind this company in regard to the shipment of live stock except by written contract in the following form; neither has such agent any power or authority to contract to have cars at his or any other station for the shipment of live stock at any given or named date, or to agree to furnish, under any circumstances, any particular class or kind of cars.

Live stock of all kinds at the following estimated weights, first-class rates: One horse, mule, or horned animal, 2,000 pounds; two horses, mules, or horned animals, 3,500 pounds; three horses, mules, or horned animals, 3,500 pounds; three horses, mules, or horned animals, 3,000 pounds; tacks or stallions, 4,000 pounds each; calves, hogs, and sheep, each 300 pounds.

In case the owner or consignor agrees to save the Missouri Pacific Railway Company from liability for any or all the causes enumerated in the following contract, and also agrees to load, unload, feed, water, and attend to the stock himself, &c., as specified therein, the rates agreed upon and specified in the contract will be given.

The said The Missouri Pacific Railway Company, as aforesaid, will not assume any liability over the actual value, but in no case exceeding one hundred dollars per head on horses and valuable live stock, except by special agreement.

For the purpose of taking care of the stock, the owner or men in charge, in proportion to the number of cars as indorsed hereon, will be passed on the train with it, and all persons thus passed are at their own risk of any personal injury whatever, and will agree to sign release to that effect indorsed on contract.

	ırs.		W: bi	ay-	Live-stock				
-	No. of cars.	i Initials.	Series.	No.	This agreement, the first part and That whereas the as per above rules this contract by m fore, for the consideration, to said stock, and the perstation, to special rate, lower between the part second party here! First. That he he of a common carrie liability shall be o				
					and also hereby a first party from an ping said stook aft				

Live-stock	contract	executed a	t station	,, 188
------------	----------	------------	-----------	--------

made between the Missouri Pacific Railway Company of

made between the Missouri Pacific Railway Company of
———— of the second part, witnesseth:

the Missouri Pacific Railway Company transports live stock

s and regulations, all of which are hereby made a part of

utual agreement between the parties hereto; now, therederations and the mutual covenants and conditions herein

d first party will transport for the said second party live

sons in charge thereof as hereinafter provided, from—

station, at the rate of —— per ———, the same being a

rether the regular rates on a rate mutually agreed upon

station, to — station, at the rate of — per —, the same being a special rate, lower than the regular rates, or a rate mutually agreed upon between the parties hereto, for and in consideration of which the said second party hereby covenants and agrees as follows:

First. That he hereby releases the party of the first part from the liability of a common carrier in the transportation of said stock and agrees that such liability shall be only that of a mere forwarder or private carrier for hire, and also hereby agrees to waive and release, and does hereby release, said first party from any and all liability for or on account of any delay in shipping said stock after the delivery thereof to its agent, and from any delay in receiving the same after being tendered to its agent.

Second. That said second party hereby agrees to accept, and does accept, for the transportation of his said stock, the cars tendered him by the said

	of cars.		Di		first party, and agrees that he will see that they are in good and safe condi-
	2	αĝ			tion, and that they are securely fastened so as to prevent the escape of said
	Jo	fnitials	Series.		stock therefrom, and that he will not hold said first party responsible for any loss or damage which may result from neglect or failure on his part, or
	No.	it.	Li	o l	of his agents or employés, to do so; and also agrees to assume, and does
	Z	5	ž.	Z	hereby assume, all risks of injury or loss to his stock because of any defect
contract.				-	in said cars, of their being wild, unruly, weak, or maining each other or
65					themselves, or of heat, suffocation, or other results of being crowded in the
at					cars, or of being injured or destroyed by fire on any account whatever, and
8					especially because of burning hay, straw, or other materials used for bedding
8					the cars, or feeding the stock, or for any other purpose.
P					Third. That, at his own risk and expense, he is to take care of, feed, water,
43					and attend to said stock, while the same may be in the stock yards of the said first party, or elsewhere, awaiting shipment, and while the same is
to read					being loaded, transported, unloaded and reloaded, and to load and unload,
6					and reload the same at feeding and transfer points, and wherever the same
0					may be unloaded and reloaded, for any purpose whatever, and hereby cove-
					nants and agrees to hold said first party harmless on account of any and all
90					losses or damages to his said stock while being so in his charge, and so cared
respectfully requested					for, and attended to, by him or his agents or employes, as aforesaid.
ne					Fourth. That he, the said second party, for the considerations aforesaid,
60					hereby assumes, and releases said first party from all risks of injury or loss
Sa					which may be sustained by reason of any delay in the transportation of his
13					said stock, caused by any mob. strike, threatened or actual violence to per- sons or property, from any source, failure of machinery or cars, injury to
n	ROUTEUR				track or yards, storms, floods, escape or robbery of any of said stock, over-
tt					loading cars, fright of animals, or crowding one upon another, or any and
9					all causes, except the gross negligence of the said first party.
18					Fifth. That in all cases, when said first party shall furnish, for the accom-
re					modation of said second party, laborers to assist in loading or unloading his
are					stock, they shall be entirely subject to his orders and deemed his own em-
8					ployés while so engaged; and he hereby agrees to hold said first party harm-
20					less on account of their acts. Sixth. That for the considerations aforesaid, said second party further ex-
9					pressly agrees that, as a condition precedent to his right to any damages for
d					any loss or injury to his said stock during the transportation thereof or pre-
P					vious to loading thereof for shipment, he will give notice, in writing, verified
200					by affidavit of his claim therefor, to some general officer of said first party
n					or to its nearest station agent, before said stock is removed from the point
d.					of shipment or from the place of destination, and before such stock is min-
BD					gled with other stock, within one day after the delivery of such stock at its
Bt					point of destination, and before the same shall have been removed, slaugh- tered, or intermingled with other stock, to the end that such claim may be
misunderstanding shippers					fully and fairly investigated, and that a failure to fully comply with the
p					terms of this clause shall be a complete bar to any recovery of any and all
T I					such claims.
118					Seventh. The said second party further agrees, for the considerations
					aforesaid, that in case of total loss of any of his said stock from any cause
order to avoid				***	for which the said first party will be liable to pay for the same, the actual cash
A					value at the time and place of shipment, but in no case to exceed one hundred dellars now head, shall be taken and deemed as a full convenention
63					dred dollars per head, shall be taken and deemed as a full compensation therefor, and in case of injury or partial loss the amount or damages claimed
to					shall not exceed the same proportion.
20					Eighth. That this contract does not entitle the holder thereof, or any other
P					person, to ride on any train except for the purposes and in accordance with
0					the rules and instructions printed on the back hereof, all of which are hereby
E					expressly accepted and agreed to be made a part of this contract.
	AT:-	. P.	m.:-		ment does not entitle the helden on other neuties to mide in the some of any
£ 70.	nin	In.	nis	cont	eract does not entitle the holder or other parties to ride in the cars of any cain in which his stock, referred to herein, is drawn or taken. Neither does
S.A.	PHILI (ALCO	310 01	no ci	am in which his stock, referred to herein, is drawn of taken. Neither does

rs of any it entitle him (and the party of the second part named in this contract so expressly stipulates, admits, and agrees) to return passage from — to — unless this said contract is presented within 15 days from the date hereof to the properly authorized agent of this company for return pass, which pass, when obtained, shall be used by those only whose names are written herein within 24 hours after the date and hour issued. Nor does it entitle any person except the party of the second part and parties who accompany him in charge of said stock, for the purpose of assisting him in taking care of the same, as specified in and upon this contract (and does not include women, infants, or other persons unable to do and perform the services required, as expressed in this contract), to such return passage within the said 15 days; the object, purpose, and intent of the return pass being to enable the said party of the second part hereto or his men in charge, as expressed in contract, and no other person, to return to—thereon, at any time within 15 days from date hereof, and not thereafter.

Tenth. For the considerations aforesaid the said second party hereby further agrees that the said persons in charge of said stock under this contract shall remain in the caboose car attached to the train while the same is in motion, and that whenever such persons shall leave the caboose car or pass over or along the cars or track, they shall do so at their own risk of personal injury from every cause whatever, and that the said first party shall not be required to stop or start its caboose cars from depots or platforms or to furnish lights for the accommodation or safety of such persons. It entitle him (and the party of the second part named in this contract so expressly stipulates

such persons.

Eleventh. In consideration of the rates herein named and the aforesaid covenants the shipper hereby releases and does waive and bar any and all cause of action for damages that has accrued to him by any written or verbal contract prior to the execution hereof.

Twelfth. And it is further stipulated and agreed between the parties hereto that in case the live stock mentioned herein is to be transported over the road or roads of any other railroad company the said party of the first part shall be released from liability of every kind after said live stock shall have left its road, and the party of the second part hereby so expressly stipu-

lates and agrees; the understanding of both parties hereto being that the party of the first part shall not be held or deemed liable for anything beyond the line of the Missouri Pacific Railway Company, excepting to protect the through rate of freight named herein.

Thirteenth. No person other than the owner of the stock shipped, or his duly authorized agent,

Thirteenth. No person other than the owner of the stock shipped, or his duly authorized agent, in the name of the owner, shall be allowed to sign this contract.

Fourteenth. The evidence that the said second party, after fully understanding and accepting all the terms, covenants, and conditions of this contract, including the printed rules and regulations at its head and on the back thereof, and that they all constitute a part hereof, fully assents to each and all of the same, is his signature hereto.

for the ____ Pailway Company.

Witness:

To be other than either of the contractors.

[Form 123. Wabash, Saint Louis and Pacific Railway Company. Live stock contract. Rules and regulations for the transportation of live stock.

Live stock in quantities less than a full carload will be rated as follows:

This line will not assume any liability over one hundred dollars on horses and valuable live stock except by special agreement.

Agents are not allowed to receive and ship such valuable horse or other animal until a proper

Agents are not allowed to receive and snip such valuable norse or other animal until a proper contract or release is signed by the owner or shipper thereof.

When live stock is shipped the owner or his agent is to feed, water, and take care of his stock, at his own expense and risk, and is to assume all risk of injury or damage that the animals may do to themselves or each other, or which may arise from delay of trains.

Stock will only be taken by the carload at the prices fixed under the table of "special rates," when a contract is executed by the station agent and shipper, to be loaded and unloaded, watered, and fed by the owner, and at his risk in all respects, except as specified in form of contract on receipt below.

Shippers in charge of stock will be passed on freight trains, on stock contract as follows:

One (1) man for two (2) or three (3) cars: two (2) men for four (4) to seven (7) cars; and three
(3) men for eight (8) cars or more, which is the maximum number that will be passed with stock for one owner. All persons thus passed are at their own risk of personal injury from any cause

whatever.

Men in charge of stock will not be allowed to ride on passenger trains on their stock contract.

Mixed shipments of stock will not be allowed except by special authority of the general freight

agent.

Agents of the company are not authorized to agree to forward live stock to be delivered at any specific time, nor are they authorized to agree to furnish cars for shippers to load at any stated time; they will make requisition on train master for cars in the order in which shippers have applied for them, and when cars are received, will distribute them in like manner.

Agents will ask train master for instructions as to when, and for what train, stock should be loaded, and will not allow shippers to load their stock until such instructions have been received. Stock pens, at stations on the line, are provided for the use and convenience of live stock shippers; but it must be distinctly understood that the company does not assume any liability for live stock while remaining in such pens; and no agent of the company will receipt for or in any way acknowledge the receipt of live stock while in the pens, and will not execute contract until stock is loaded. stock is loaded.

No.of	This agreement, made this — day of —, A. D. 18—, between the "Wabash, Saint
cars.	Louis and Pacific Railway Company," party of the first part, and ———, wit-
	nesseth:
	That the party of the first part will, in consideration of the agreement herein con-
	tained, forward to the party of the second part, men and the following freight,
	to wit: —— from —— to ——, at the rate of —— per ——, which is a reduced
	rate expressly agreed upon between the parties hereto, and in consideration of which
	rate the party of the second part stipulates and agrees as follows: First. The party of
	the second part agree to take care of said freight while the same is being transported,
	and load and unload the same at his or their own risk and expense. Second. The party
	of the second part expressly agrees that neither the party of the first part nor any con-
	necting line or lines over which said freight may pass, shall be responsible for any loss,
	damage, or injury which may happen to said freight, or be sustained by it, while being
	loaded, forwarded, or unloaded. Third. The party of the second part agrees that as
	soon as said live stock is placed in said cars, he will see that all the doors and openings
	in said cars are closed and so fastened, and afterwards kept so closed and fastened as
	to prevent the escape of said stock therefrom, and the party of the second part in con-
	sideration of this agreement, hereby releases the party of the first part and all con-
	necting lines from all claims for damage or loss sustained by the party of the second
******	part in consequence of the escape of any of said live stock through the doors and open-
	ings in said cars. Fourth. It is agreed that neither the party of the first part nor any
	connecting line shall be responsible for any damage or injury sustained by said live
	stock from suffication while in said cars, or for any injury caused by overloading
	cars, or from fright of animals, or from the crowding of one upon or against another.
	Fifth. It is agreed that neither the party of the first part nor any connecting line shall

be responsible for any delay caused by storm, failure of machinery or cars, or from obstructions of track from any cause, or for any injury caused by fire from any cause whatever. Sixth. In consideration of this agreement, the party of the second part hereby releases the party of the first part and connecting lines from all chins for damage that may be occasioned by the burning of hay, straw, or other material placed in said car, or cars. for the purpose of feeding or bedding said stock. Second. The party of the second part, in consideration of the rate named in this contract, further agrees to water and feed said stock at his or their own risk and expense while the same is in the cars of said live stock while on said trip from any cause whatever, the party of the second part agrees to accept as full compensation for all loss or damage sustained in consequence of such delay, the amount actually expended by him or them in the purchase of food and water for the stock aforesaid. Bighth. The party of the second part hereby agrees to accept as full compensation for all loss or damage sustained in consequence of such delay, the amount actually expended by him or them in the purchase of food and water for the stock aforesaid. Bighth. The party of the second part hereby agrees to assume all risk of injury or damage to, or escape of the live stock aforesaid, which may happen to it while in the stock yards of the said first party awsiting shipment at any point on any line of railroad owned or operated by it. North, it is hereby further agreed by and between the parties hereto, that the party of the first part and the connecting lines over which said freight may pass, shall be deemed merely forwarders, and they shall only be responsible for such injuries to said live stock as may be caused by gross negligence. Tenth. In consideration of the rate aforesaid it is further agreed that no claim for damages which may accrue to the party of the second part under this contract, shall be allowed or paid by the party of the party, No. of cars. . Agent. Owner or shipper.

Two copies of this contract will be signed by both the agent of the company and the owner or shipper—one copy to be retained by the shipper and one copy to be returned to general freight

(Across the face:) Not negotiable.

(2,500,)

[The Missouri Pacific Railway; Central Branch U. P. R. R.; Missouri, Kansas and Texas Railway; Saint Louis, Iron Mountain and Southern Railway; Texas and Pacific Railway; International and Great Northern R. R.; Wabash, Saint Louis and Pacific Railway. Total mileage, 9.757 miles.

[The Missouri Pacific Railway Company and Wabash, Saint Louis and Pacific Railway. Office of freight traffic manager. Circular No. 20. Rules for passing men in charge of shipments of live stock.

SAINT LOUIS, December 28, 1883.

To Agents:

The following rules will govern the transportation of men in charge of and accompanying live stock shipped under contract over the lines within this system. No person will be allowed to go free with less than two cars in one shipment from one consigner to one consignee. One person may be allowed to go free with two or three cars: two persons with four to seven ears, and three persons with eight cars or more in one shipment. One person only will be allowed with any number of cars of hogs or sheep.

BETURNING.

No return pass will be given for less than two cars in one shipment from one consignor to one consignee. One man may return free for two or three cars, two men for four, five, six, or seven,

and three men for eight cars or more in one shipment. Only one return pass will be given for two or more cars of hogs or sheep. These rules will not apply on shipments between points governed by the Southwestern Railway, Iowa Trunk Line, or Colorado Traffic Associations.

This cancels all previous instructions.

GEO. OLDS, Freight Traffic Manager.

[Circular No. 20.]

J. J. ROGERS, General Freight Agent:

Station No. -

Agents receiving will detach, date, sign, and return this receipt to G. F. O. by first train. Note.—The agent must in all cases enter plainly the name and number of his station in proper

[The Missouri Pacific Railway; Central Branch U. P. R. R.; Missouri, Kansas and Texas Railway; Saint Louis, Iron Mountain and Southern Railway; Texas and Pacific Railway; International and Great Northern R. R.; Wabash, Saint Louis and Pacific Railway. Total mileage,

[The Missouri Pacific Railway Company and Wabash, Saint Louis and Pacific Railway. Circular No. 162–G. Rules for passing men in charge of shipments of live stock.]

SAINT LOUIS, October 31, 1883.

To Agents:

The following rules will govern the transportation of men in charge of and accompanying live stock shipped under contract over the lines within this system. One person will be allowed to go free with one, two, or three cars: two persons with four to seven cars, and three persons with eight cars or more in one shipment. One person only will be allowed with any number of cars of hogs or sheep.

RETURNING.

No return pass will be given for less than two cars in one shipment from one consignor to one consignee. One man may return free for two or three cars, two men for four, five, six, or seven, and three men for eight cars or more in one shipment. Only one return pass will be given for two or more cars of hogs or sheep. These rules will not apply on shipments between points governed by the Southwestern Railway, Iowa Trunk Line, or Colorado Traffic Association.

GEO. OLDS, Freight Traffic Manager.

[Circular No. 162-G.]

J. J. ROGERS, General Freight Agent:

-, Agent. Station.

Agents receiving will detach, sign, and return this receipt to G. F. O. by first train.

NOTE.—The agent must in all cases enter plainly the name and number of his station in proper place above.

[The Missouri Pacific Railway Company. Circular No. 90. Transportation of stock,]

ATCHISON, KANS., December 22, 1883.

To Agents and Conductors:

You will give your personal attention to the handling of live stock, both at stations and while in transit.

Agents are requested to see, personally, to loading stock at their respective stations: to examine all cars before and after loading, and know, from personal examination, that cars are in good condition, and that doors are securely fastened and sealed on both corners or side of each door as soon as cars are loaded.

Conductors are required to notice condition of stock when taken into train and while in transit: to see, personally, to watering same when the weather requires, and to know, from a personal examination, that all doors are securely fastened and sealed. In all cases where seals are not perfect make special report to this office, giving car number and station billed from, keeping record of such report in your book for future reference.

W. W. FAGAN, Superintendent.

L. A. EMERSON, General Western Freight Agent.

[Circular No. 90.]

General Western Freight Agent, Atchison:

Circular, numbered as above, received ---------, 188--.

Agent, - Station.

Agents receiving will detach, sign, and return this receipt by first train.

NOTE.—The agent must in all cases enter plainly the name of his station in proper place above.

[1-9-84-10 M. 37. Chicago and Northwestern Railway Company. Live-stock contract.]

Live stock in full carloads will be waybilled as follows:

16,000 pounds per car. Hogs. Sheep and calves ... 12,000 pounds per car.

Less than carloads at rates and weights given in classifications.

No liability will be assumed on horsesor valuable live stock for more than one hundred dollars No liability will be assumed on horsesor valuable live stock for more than one hundred dellars per head, unless by special agreement noted hereon, and agents are not permitted to receive or ship such valuable animals until a proper contract or release is signed by the owner or shipper thereof. And it is agreed between the owner and shipper of these animals and the said railway company that in case of accident, resulting in injury to said animals, the value thereof shall in no case be estimated at more than one hundred dollars for each animals of injured. Shipments of live stock in carloads or less than carloads will only be taken at the rates named herein, after this contract or agreement shall have been signed by the company's station agent and the owner or shipper, by which it is agreed and understood that such owner or shipper shall load, feed, water, and take care of such stock at his own expense and risk, and will assume all risk of injury or damage that the animals may do to themselves or each other, or which may arise by delay of trains.

Different kinds of live stock must not be loaded together in the same car (except as provided

Different kinds of live stock must not be loaded together in the same car (except as provided for in classifications or by special instructions). Agents are not authorized to agree to forward live stock to be delivered at any specific time.

Persons in charge of live stock will be passed on the trains with and to take care of it as fol-

lows: One man with two or three cars: two men with four to seven cars: three men with eight cars, which is the maximum number that will be passed for one owner. No return passes will

be given on account of shipments of stock cattle west bound.

No person will be passed with one car of live stock, except that one car of horses, mules, or emigrant movables containing live stock will entitle the owner or man in charge to passone way on the same train to take care of it, but these are the only two instances in which a conductor is authorized to pass any one with a single carload. Parties so passed must accompany the stock

on the same train.

Agents will permit only the signatures of owners or bona fide employes who accompany the stock to be entered on back of contract, without regard to passes allowed by number of cars, and run a pen through remaining lines

Such entry of persons in charge, and certificate of billing agent to that effect, will be the authority for conductors to pass them with the stock.

All persons are thus passed only at their own risk of personal injury from whatever cause.

WILLIAM S. MELLEN, General Freight Agent.

HENRY C. WICKER.
Freight Traffic Manager.

CHICAGO AND NORTHWESTERN RAILWAY COMPA	
Received of ———, to be delivered at —— Station, at special rate	NY,
dollars per car for horses or mules. dollars per car for cattle or hogs. dollars per car for sheep.	
In consideration of which, and for other valuable considerations, it mutually agreed that said company shall not be liable for loss by junthe cars, delay of trains not caused by negligence as aforesaid or any daproperty may sustain, except such as may result from a collision of the tother trains, or when the cars are thrown from the track in course of trains.	oing from mage said rain with
tion, and in this case the company upon whose road the accident, loss, or shall occur shall be liable therefor, and no suit shall be brought or cle against any other company forming a part of the route for such loss or d	r damage im made amage (it
pany shall cease upon delivery of said property to its connecting line, un wise agreed to in writing and signed by the respective parties hereto, the rules and regulations printed above are an essential part of this con	essother- and that
	Agent.
	Owner.

(Across the face:) Read this contract.

[Form 282.]

Live stock contract.

Nonenumerative live stock, of all kinds, not shipped under contract, will be charged firstclass rates

class rates.

Enumerative live stock, in quantities less than carloads, will be charged as follows: One horse (except stallions), mule, or horned animal, 2,000 pounds each; two animals, 3,500 pounds; three animals, 5,000 pounds; each additional animal, 1,000 pounds, first-class rates; stallions or jacks, 4,000 pounds each, first-class rates; colts, when with their dam, 500 pounds each, first-class rates. Live hogs, calves, and sheep, in boxes, actual weight, once and a half first class; loose, for any distance, calves, 500 pounds, hogs and sheep, 200 pounds each, once and a half first class, tut not less than 75 cents each for any distance; if no partition in car, or not otherwise secured, at carload rates, of price fixed under the table of "Special rates."

At the above rates the owner is to feed, water, and take care of his stock at his own expense and risk, and if he fails so to do, the company may, without notice, do the same if it thinks proper, and charge the expense as additional freight; and the owner is also to assume all risk of

njury or damage that the animals may do to themselves or to each other, or which may arise

Injury or damage that the annual may do from delay of trains.

Two or three cars will entitle the owner or driver to pass on the train with the stock, to take care of it. Four to seven cars, inclusive (one owner), two men in charge, eight cars or more, three men in charge, to pass on stock train, which is the maximum number that will be passed on any train from one consignor or party. All persons thus passed are at their own risk of personal injury from any cause whatever. On shipments of hogs only one man will be passed with

sonar injury from any cause whatever. Of single cars.

No passes will be granted on shipment of single cars.

The company reserves the right of refusing, at the discretion of their agents, passes to any parties accompanying stock, without regard to quantity shipped.

No agent is authorized to make an agreement for the shipment of live stock, fresh provisions, or slaughtered hogs at any particular time. Due diligence will be observed in sending them forward.

No. of CHICAGO AND ALTON RAILWAY COMPANY. cars. are properly and securely fastened, so as to prevent the escape of the live stock uncerform. And it is further agreed between the parties that the first party shall in no case be held liable for damages to stock shipped under this contract in a greater sum than \$100 for each horse, \$75 for each bull, cow, or ox, \$25 for each sheep, calf, or other animal. And it is further mutually agreed that should loss or damage of any kind occur to the property, or any part thereof, specified in this agreement, while such property is in the possession of said first party under this agreement, said second party shall, within five days after such loss or damage has occurred, make out and send to the general freight agent of said first party a written statement of his claim for damages, if said second party shall have any such claim; and unless such written statement is so made and sent within said period of five days the amount of such loss or damage, or any part thereof, shall not be payable or recoverable, and a suit thereupon shall be forever barred, and the party of the second part hereby so expressly stipulates and agrees. And it is further mutually agreed that any suit or action against said first party for the recovery of any claim by virtue of this agreement for loss or damage to the property, or any part thereof herein specified, shall be commenced within sixty days next after such loss or damage shall have occurred, or be thereafter forever barred; and should any suit or action be commenced against said first party after the expiration of the aforesaid sixty days, the lapse of time shall be taken and deemed as conclusive evidence against the validity of such claim, any statute of limitations to the contrary notwithstanding, and the party of the second part hereby so expressly stipulates and agrees. And it is further agreed that the said party of the second part is to load and unload. from. agrees. And it is further agreed that the said party of the second part is to load and unload said stock at his own risk, the Chicago and Alton Railroad Company furnishing laborers to assist, who will be subject to the order of the owner or the agent while in that service; and that the said party of the second part will assume all risk for damage or injury to, or escape of, the live stock, which may happen to them while in the stock yards awaiting shipment. And that the said second party will assume the charge of feed and water, and take care of the stock enumerated herein, at his own expense and risk while the same is in the stock yards of the first party awaiting shipment on board the care. the cars And it is further agreed between the parties hereto that the person or persons riding free, to take charge of the stock, do so at their own risk of personal injury, from whatever cause, and that the said person or persons shall sign the indorsement on the back of this agreement. of this agreement. And it is further stipulated and agreed between the parties hereto that in case the live stock mentioned herein is to be transported over the road or roads of any other railroad company, the said party of the first part shall be released from liability of every kind after said live stock shall have left its road: and the party of the second part hereby so expressly stipulates and agrees; the understanding of both parties hereto being that the party of the first part shall not be held or deemed liable for anything beyond the line of the Chicago and Alton Railroad Company, excepting to protect the through rate of freight named herein. And this agreement further witnesseth, that the said party of the second part has this day delivered to said Chicago and Alton Railroad Company — to be transported to — station on the conditions above expressed. Station Agent.

Agents will enter the names of parties entitled to passes on the back of this contract. If presented by other than person named, conductor will collect fare.

CARE OF HOGS IN TRANSIT.

When the transit requires more than one day the hogs are fed at intervals of 16 to 36 hours, always receiving corn of good quality at the rate of 2 to 4 bushels to each carload. They are watered at the same time with as much good, fresh water from the company's tank as they will drink. A careful examination shows that the water given the stock transported on the railroads is of good quality, being taken from the tanks from which the locomotives are supplied, for which purpose the purest quality is secured. The corn supplied is invariably of good quality.

During hot weather the hogs on all roads are cooled with water, for which purpose there are special arrangements at their tanks by which as much as 50 barrels per minute is poured over them as the train moves slowly past. The maximum distances that hogs are carried varies with different roads from 150 to 500 miles,

the time required being usually less than 30 hours.

The cars are not always as clean as they should be when the hogs are loaded into them; in warm weather they are not bedded but have simply a layer of sand sprinkled over the floor, but in winter they are bedded with sawdust, straw, or hay.

Sufficient care is not given to cleaning the cars; with most companies the rule is to remove the filth at the end of each trip. In no case is any special disinfection

practiced with cars on which diseased animals may have been shipped.

The following letter from C. H. Chappell, esq., general manager of the Chicago and Alton Railroad Company, in reply to interrogations (copy of which are given above) addressed to him, regarding the transportation of hogs and their care in transit, is here given:

CHICAGO AND ALTON RAILROAD COMPANY, GENERAL MANAGER'S OFFICE, Chicago, January 24, 1884.

E. W. BLATCHFORD, Esq., American Pork Commission.

DEAR SIR: Your questions respecting the regulations governing the transportation of hogs on the Chicago and Alton Railroad will be answered as numbered,

and in the order asked.

1st question. The company does transport dressed hogs, and I suppose the company will transport dead hogs for short distances to rendering establishments. The company has no tariff rate for such transportation, and if such transportation is desired it will be furnished upon special contract, having in view the circumstances, but no such hogs are ever transported to market, or under circumstances which can in any way affect the hog product of the country. It not unfrequently happens that one or more hogs die in transit to market, and such hogs are uniformly sent to a rendering establishment. For this purpose cars of this company may be employed, but, in fact, I am not aware that they have ever been so employed.

2d question. The company never transports hogs or any other animals apparently having a contagious or infectious disease. Neither this company nor any other, to my knowledge, has an inspector to determine whether animals are diseased or not, but if apparently infected with a contagious or infectious disease the agent

would, as a matter of course, reject them.

3d question. The company would carry them to rendering establishments only.
4th question. The Chicago and Alton Railroad Company has not transported any hogs that have died of cholera to Chicago or any other market.

5th question. The station agent assists the shipper to pen and load his hogs, and

would notice anything unusual in their condition before receiving them.

6th question. He has authority to observe the law of the land, which I understand requires him not to be instrumental in spreading contagious or infectious diseases.

7th question. Shippers load their own hogs into cars furnished to them for that purpose. The company does not inspect hogs any further than to know that they are not diseased and are in fit condition for transportation. The company is supposed to receive hogs for transportation in good order. As common carriers the company considers it is not at liberty to spread infectious or contagious diseases, and, as a matter of self-protection, it does not take property which, in the exercise of reasonable judgment, will perish in transit. Hogs are frequently driven long distances to a shipping station. If they are heavy with fat, they will arrive overfatigued and feverish. If loaded into a car and cooled frequently with water thrown from a hose, their condition will improve in transit. As a common carrier, the company would not be protected in refusing hogs in this condition, as shippers under their live-stock contracts with this company assume all risks of loss or dam-

age, except that for which employés of this company may be responsible. It is for their interest to provide all needed food and water.

8th question. Hogs vary so much in size that no fixed rule can be profitably

If a car is crowded the shipper is notified that they will not ride well, and he must take out some before starting.

9th question. Please see contract with this.

[Extracts from special instructions to agents and conductors of the Chicago and Alton Railroad.]

57. Before loading live stock, examine the cars and see that the crossbars and doors are in proper order. Count the stock as it is being loaded, so as to know the number of animals loaded into each car. While our rules require the owner to load and unload his stock, agents will render all the assistance they can, consistent with their other duties. See that the crossbars are in their proper places and the doors securely fastened before the cars leave the station. Agents will not allow hogs or sheep to be loaded in the same car with cattle or horses. This is imperative.

72. In waybilling live stock, be particular to note on the waybill the number of animals in the car; also note the kind of stock (whether horses, cattle, hogs, or If fine or blooded stock, note on the face of the waybill, "Company released from liability above the value of common stock," as per stipulation in the live-stock contract.

[10 M. 10-26-83. Form 282. Live-stock contract.]

Nonenumerative live stock, of all kinds, not shipped under contract, will be charged first-class

rates.

Enumerative live stock, in quantities less than carloads, will be charged as follows: One horse (except stallions), mule, or horned animal, 2,000 lbs. each; two animals, 3,500 lbs.; three animals, 5,000 lbs.; each additional animal, 1,000 lbs., first-class rates; stallions or jacks, 4,000 lbs. each, first-class rates; colts, when with their dam, 500 lbs. each, first-class rates.

Live hogs, calves, and sheep, in boxes, actual weight, once and a half first class; loose, for any distance, calves, 500 lbs., hogs and sheep, 200 lbs. each, once and a half first class; but not less than 75 cents each for any distance; if no partition in car, or not otherwise secured, at carload rates of price fixed under the table of "special rates."

At the above rates the owner is to feed, water, and take care of his stock at his own expense and risk, and if he fails so to do the company may, without notice, do the same if it thinks proper, and charge the expense as additional freight; and the owner is also to assume all risk of injury or damage that the animals may do to themselves or to each other, or which may arise from delay of trains.

Two or three cars will entitle the owner or driver to pass on the train with the stock to take

Two or three cars will entitle the owner or driver to pass on the train with the stock to take care of it. Four to seven cars, inclusive (one owner), two men in charge, eight cars or more, three men in charge, to pass on stock train, which is the maximum number that will be passed on any train from one consignor or party. All persons thus passed are at their own risk of personal injury from any cause whatever. On shipments of hogs only one man will be passed with any number of cars.

o passes will be granted on shipment of single cars.

No passes will be granted on shipment or single cars. The company reserves the right of refusing, at the discretion of their agents, passes to any parties accompanying stock, without regard to quantity shipped.

No agent is authorized to make an agreement for the shipment of live stock, fresh provisions, or slaughtered hogs at any particular time. Due diligence will be observed in sending them forward.

No. of cars.	CHICAGO AND ALTON BAILROAD COMPANY,				
	Memorandum of an agreement made and concluded this day, by and between the Chicago and Alton Railroad Company, of the first part, by the station agent at the above				
	named station, and ————, of the second part, witnesseth: That whereas the said Chicago and Alton Railroad Company transport cattle, hogs.				
	horses, pigs, sheep, lambs, calves, or other live stock, only as per tariff in use at this date for stock, per carload, or when taken less than carloads, as per special rates, pub-				
	lished on the tariff of prices: Now, in consideration that the said party of the first part will transport for the party				
	of the second part such live stock at the rate of —— dollars per carload, or —— cents per 100 pounds, and advanced charges —— and other valuable considerations, the said				
	party of the second part does hereby agree to take the risk of injuries which the ani-				
	mals, or either of them, may receive in consequence of any of them being wild, unruly, weak, escaping, or maining each other, or from delays, or in consequence of heat, suf-				
	focation, or other ill effects of being crowded in the cars, or on account of being injured by the burning of hay, straw, or any other material used by the owner for feeding				
	stock or otherwise, and for any damage occasioned thereby, and also all risks for damages which may be sustained by reason of any delay in such transportation, and				
	that he will see to it that the cattle, etc., are securely placed in the cars furnished, and that the cars are properly and safely fastened, so as to prevent the escape of the live				
	stock therefrom. And it is further agreed between the parties that the first party shall in no case be				
	held liable for damages to stock shipped under this contract in a greater sum than \$100 for each horse; \$75 for each bull, cow, or ox; \$25 for each sheep, calf, or other animal.				
	And it is further mutually agreed that should loss or damage of any kind occur to the property, or any part thereof specified in this agreement, while such property is in the				
	possession of said first party under this agreement, said second party shall within five				
	days after such loss or damage has occurred make out and send to the general freight				

agent of said first party a written statement of his claim for damages, if said second party shall have any such claim: and unless such written statement is so made and sent within said period of five days the amount of such loss or damage, or any part thereof, shall not be payable or recoverable, and a suit thereupon shall be forever barred, and the party of the second part hereby so expressly stipulates and agrees.

And it is further mutually agreed that any suit or action against said first party, for the recovery of any claim by virtue of this agreement for loss or damage to the property, or any part thereof herein specified, shall be commenced within sixty days next after such loss or damage shall have occurred, or be thereafter forever barred; and should any suit or action be commenced against said first party after the expiration of the aforesaid sixty days the lapse of time shall be taken and deemed as conclusive evidence against the validity of such claim, any statute of limitation to the contrary not-withstanding, and the party of the second part hereby so expressly stipulates and agrees. No. of cars. agrees. And it is further agreed that the said party of the second part is to load and unload said stock at his own risk! the Chicago and Alton Railroad Company furnishing laborers to assist, who will be subject to the order of the owner or the agent while in that service; and that the said party of the second part will assume all risk for damage or injury to. or escape of, the live stock, which may happen to them while in the stock yards awaiting shipment. And that the said second party will assume the charge of feed and water, and take care of the stock enumerated herein, at his own expense and risk, while the same is in the stock yards of the first party awaiting shipment on board

And it is further agreed between the parties hereto that the person or persons riding free, to take charge of the stock do so at their own risk of personal injury, from whatever cause, and that the said person or persons shall sign the indorsement on the back

ever cause, and that the said person or persons shall sign the indorsement on the back of this agreement.

And it is further stipulated and agreed between the parties hereto that in case the live stock mentioned herein is to be transported over the road or roads of any other railroad company, the said party of the first part shall be released from liability of every kind after said live stock shall have left its road; and the party of the second part hereby seexpressly stipulates and agrees; the understanding of both parties hereto being that the party of the first part shall not be held or deemed liable for anything beyond the line of the Chicago and Alton Railroad Company, excepting to protect the through rate of freight named herein.

And this agreement further witnesseth that the said party of the second part has this daydedivered to said Chicago and Alton Railroad Company — to be transported to — station, on the conditions above expressed.

Station Agent.

Agents will enter the names of parties entitled to passes on back of this contract. If presented by other than person named, conductor will collect fare.

10th question. Condition not specified unless there is doubt as to their riding well.

11th question. The regulations of the company require the trainmen in charge of trains transporting hogs to see that they do not suffer from heat, crowding, or lack of food and water.

12th question. They are cooled and watered during warm weather as often as

they require it, and food is given to them daily.

13th question. The owner or his agent atten is to the loading of the hogs, and in case they are billed to Chicago or East St. Louis markets the owner or his agent accompanies them. If billed to some Eastern point, each company generally takes care of the hogs while in transit over its lines.

14th question. The owner can go or send them in charge of employés as he may

15th question. Each time the train comes to a stop the hogs are looked over to see if they are riding well or need any care.

16th question. Corn in the ear.

17th question. Always daily, often more frequently.

18th question. Good as can be obtained.

19th question. As much as they need. 20th question. The water given comes from the fresh-water lakes of the company, where it is collected from grass-covered lands, and is kept perfectly pure for use in the locomotives of the company.

21st question. Daily in winter; as often as they need it at other seasons.

22d question. As much as they require. 23d question. Water is frequently used for cooling, all of the water stations of this company are fitted for cooling hogs, and as they are but 20 miles apart the conductor can comply with his instructions. "During warm weather cool frequently." As a check on the conductors, he is obliged to note in the billing stations at which he has cooled the hogs.

24th question. The company has fitted two hose connections to each water tank on the line and two large streams are thrown into each car loaded with hogs.

25th question. Twenty-four hours is the limit. 26th question. The floor of each car in summer is covered with 6 inches of clean sand. In winter straw and hay is used.

27th question. At the end of each trip.

28th question. As these cars are used on the return trip for the transportation of many articles that would be damaged by filth, they are thoroughly cleaned. 29th question. Not having transported diseased hogs, we have not disinfected

cars.

Yours, truly,

C. H. CHAPPELL. General Manager Chicago and Alton Railroad.

CONDITION AND TREATMENT OF ANIMALS AT STOCK YARDS.

To the officers of the stock yards there were personally presented the following interrogatories, to which full replies were in all cases given, and every possible facility offered for the frequent and thorough personal examinations which have been made:

Interrogatories concerning the receipt, condition, care, and disposition of hogs at the stock yards, with construction, conveniences care, and inspection of the yards.

1. Is any examination made, before unloading from cars, to detect diseased or injured hogs?

- 2. If so, what regulations govern such examination?
 3. When does "delivery" by railroad company take place?
 4. Are any special instructions given in regard to care in unloading?
 5. What is done with hogs found to be sick, diseased, bruised, or crippled?
 6. What is done with hogs found smothered?
- What is done with hogs dead from disease?

8. Are they sold?

9. To whom?

10. For what purpose? 11. Where are they sent?

12. How are they transported?

13. What is done with healthy hogs on their arrival?
14. When are they fed?
15. What kind of food is given them?
16. What quantity?
17. How is it furnished to them?

18. Are they watered? 19. When?

20. How is the water furnished to them?

21. What quantity? 22. In the absence of orders by owners or consignees of hogs, have you any regulations authorizing the feeding and watering of hogs?

23. How are the hogs cared for in bad weather? 24. How many hogs die in the yards?

25. From what cause?

26. What is done with them?27. What is done with diseased hogs if discovered in the pens?

28. How are these hogs disposed of?

Construction.

29. How arranged to receive hogs from cars?

30. What is the size of the pens? 31. How are they protected?

32. Are they drained?

33. How can they be cleaned?

34. What are the regulations in regard to keeping the pens clean;
35. What measures are adopted to disinfect pens where diseased hogs have been?
36. Is there any inspection made of the sanitary condition of the yards, or the condition and care of the hogs?

37. If so, under what authority?

38. Is such inspection sufficient and effective to secure the sanitary condition of the premises, and prevent any hogs, diseased or in improper condition, going into food?

39. What is the amount of business done annually? 40. What are your total receipts?

40. What are your total receipts?41. What is the average weight of hogs for the year?

42. What is total value of hogs received?

43. Please state what system of supervision is adopted to prevent any diseased hogs going into food, and under what authority such supervision is exercised, whether municipal, State, or the national or local humane society.

ARRIVAL AT STOCK YARDS.

When the loaded trains draw up to the platforms at the stock yards "delivery" by the railroad companies takes place. There is no special examination before unloading to detect diseased or injured hogs. There are more or less dead hogs on nearly every train, the most of which have been smothered in transit. The number varies, but will reach from 0.3 to 1 per cent, and such animals are always sent to the obal-rendering works. We find no exceptions to this rule. The stock-yard companies being also interested in the offal-rendering establishments, are very particular to prevent any dead animals escaping them. The State and municipal boards of health have also men stationed continually in the stock yards of Chicago and most other cities to see that no animals unfit for food shall enter into consumption.

The entrances of these stock yards are at all times carefully guarded, and no animals are allowed to pass through without a ticket, properly signed and certified to, being given up. These tickets specify the animal, its condition, and the exact division and pen from which it has come or to which it is being driven.

The following is a blank form of the tickets used in the Chicago stock yards:

----188

(Stamped:) U. S. Y. & T. Co., Jan. 10, 1884.			GATE ORDER. DIVISION D.
Jan. 10, 1884.	0, 1884. Pass out B. P	P. Chute	Cattle.
	·		Нодя.
	ock) ne	Cows.
- fo	(Bloc		
WM. FALLON.			——————————————————————————————————————
WM. FALLON, & Div. Supt.	l ——	_alley	Deliverer.

DISPOSITION OF DEAD OR INJURED HOGS.

The dead hogs at Chicago are loaded into box cars and sent to the Union Rendering Company's offal establishment at Globe Station. At Kansas City they are sent in a similar manner to the Kansas City Desiccating and Refining Company. At Cincinnati they go to fertilizer companies, and at other points they are disposed of in a similar manner. Such dead animals are cut up, put into tanks, and heated by steam for about eighteen hours, when the grease is drawn and the residuum pressed.

There are several qualities of grease made which in the trade are known as "white," "yellow," and "brown" grease. All qualities of grease are put into old tierces and sold upon their merits. The bulk of this grease is used in the manufacture of lubricating oi's, candles, and soap. The remainder of the carcass is manufactured into fertilizers.

At Chicago and other points the animals which are bruised or crippled are carted to slaughterhouses and killed. They are then examined by the city health officer, who decides whether they are fit for food.

If condemned they are rendered into grease. Such animals, if used for food,

generally enter into local consumption. The meat of animals at all feverish is liable to become "sour." Sick hogs are always condemned and tanked with the offal.

DISPOSITION OF HEALTHY HOGS.

The healthy hogs when unloaded from the cars are driven across the platform and down a guarded inclined plane into the yards. They are then put into covered pens which in most yards are floored. At Chicago the pens allow 500 square feet to each car load of hogs. At Kansas City they are 18 by 28 feet, and 24 feet square; at St. Louis they are 16 by 44 feet, and 32 by 44 feet; at Indianapolis they are 30 by 40 feet; and at Cincinnati, 24 feet square.

Each pen is furnished with a watering trough, which at most places is partly covered to prevent hogs from lying in it. The pens are cleaned by a force of men, with horse carts kept constantly at work, who go over each pen once in one or two weeks. No disinfection is practiced beyond cleaning and occasionally washing

out the pens.

CARE OF HOGS IN THE YARD.

The hogs are fed on corn at the request of the owner, or if the owner does not accompany them, they are fed by the stock-yard company. This is seldom neglected, as the corn is furnished by the companies at a price considerably above market rates, and it is to their interest to see that the animals are properly supplied. If for any reason the animals are not fed within a reasonable time the agent of the Humane Society has power to order that this be done. As a rule the hogs are fed as soon as yarded with good sound corn, at the rate of 2 bushels to a car load. They are also watered at the same time with a plenty of good fresh water which is run into the troughs from hydrants. In winter men are employed in some yards to keep the hogs from crowding upon and smothering each other. The deaths in the yards are very few, not amounting to more than one in a thousand hogs handled, and these are mostly from overheating, smothering, or acci-

If sick hogs are discovered in the yard; at Chicago, Cincinnati, or Kansas City, the health officer has power to kill them at once. At a few points they are kept in pens by themselves, to await results; or are sold to farmers at a low price, who buy them on the chance of their recovery. The hogs that die or are killed as above in the yards at once become the property of the offal rendering companies, who pay a nominal price for them, and they are immediately taken to the rendering establishments.

Replies received from the stock-yard companies at Baltimore, Philadelphia, Jersey City, New York, West Albany, Buffalo, and Boston confirm the information obtained in the West as to the condition of the hogs when they arrive, the small mortality in transit (less than 1 per cent), and the good care of the animals.

SANITARY SUPERVISION.

At Chicago there are both State and city health officers stationed in the yardsat Cincinnati there are city health officers; the Indianapolis yards are visited occasionally by officers of the board of health; at the City of Kansas an officer is sta; tioned at the yards, who has power to kill diseased animals; at St. Louis and East St. Louis there is no effective supervision at present; but one is about being established. At Chicago, Cincinnati, and City of Kansas it is believed that this inspection is sufficient to prevent any diseased animals from being used for food products. At Indianapolis, and particularly at St. Louis, the inspection is not at present We have no facts, however, showing that diseased hogs have been packed at any place, though we have made very particular inquiries in this direction; and from the general opinion among packers that the meat of sick animals can not be cured without "souring," and the great care exercised by all the packing companies to buy none but good hogs, we have every reason to believe that this has not occurred. At the same time a more rigid inspection at some of these points is greatly to be desired.

To show the care and scrutiny which is exercised in this department in this country by the State and municipal health boards, there are here inserted the following laws and ordinances, with the penalties for their infringement. These include only the reports obtained up to the date of making this report.

ILLINOIS.

City of Quincy, State of Illinois-Ordinance No. 83.

DUTIES OF SANITARY OFFICER.

SECTION 5. It shall be the duty of the sanitary officer to keep a correct and complete record of the proceedings of the board of health; to issue all permits authorized by the board; to direct and see that the duties of the scavenger are performed as the board shall have provided; to report to the board all nuisances coming under his notice: to examine, at the request of said board, or the mayor, any boat or vessel landing at the harbor in this city, the officers, crew, or passengers which may be supposed to be affected by any contagious or infectious disease; and in all cases when it shall come to his knowledge that any one is afflicted with smallpox, he shall have placed upon or near the house occupied by such person a written or printed notice, viz, "No admittance—Smallpox here;" and shall perform such other duties as pertains to his office.

POWERS OF BOARD.

SECTION 6. The board of health shall have full power to take all steps and use all means necessary to promote the cleanliness and general health of the city, or any part thereof; to order the abating of all nuisances on public or private property, but this shall not be construed to give the board of health any power to spend money not provided for in the annual appropriation for the health department, unless by special order of the council; to use any measure the board may see fit to adopt to prevent the introduction or spread of any malignant, contagious, or infectious diseases in the city; to enter or permit its officers to enter and examine, with reference to the abatement of any nuisance, all premises and all parts thereof within the city limits, and direct any bedding, clothing, or unsound meat, beef, pork, fish, hides or skins of any kind there found to be destroyed, when dangerous to the health of the inhabitants of this city.

Adopted July 19, 1880.

Ordinance No. 160,

AN ORDINANCE concerning dead animals.

SECTION 1. Be it ordained by the city council of the city of Quincy, That every person having within his possession or control, or upon any premises owned or occupied by him, any dead animal not proper for food, and liable to become noxious and detrimental to health if not disposed of as provided in and by section 7 of article 3 of Chapter XII of the Revised Ordinances of said city, entitled health department, shall, within three hours after the death of said animal, give notice thereof to the officer in charge of the police station, and such officer shall at once cause notice thereof to be given to the board of health.

SEC. 2. That no person other than the officers of the board of health or department of police, or person or persons thereto authorized by the board of health, by contract or otherwise, shall in any way interfere with such dead animals in, or remove the same from, any street or place (unless as provided by section 1); and for the purpose of disposing of or removing any such animal any person so authorized by the board of health shall be permitted at all times during the day to enter

into or upon any premises in said city.

SEC. 3. The Quincy Fertilizing and Rendering Company, or any person, copartnership of persons, or corporation who shall remove the carcass or carcasses of any dead animal or animals not slain for human food, shall give good and satisfactory bond of two thousand dollars as a guarantee that none of the product of any such carcass or carcasses shall be employed or utilized for human food; and that all grease or other products rendered or manufactured or packed for use or transportation, to or from market in the city of Quincy or elsewhere, shall be branded with a burning brand as follows: "Product of dead animals, Quincy, Ills." And no rendering of the aforesaid carcass or carcasses shall be done within the city limits of the city of Quincy.

SEC. 4. Any person violating any of the provisions of this ordinance shall, upon conviction thereof, be fined in a sum not less than twenty-five dollars nor more than one hundred dollars for each and every offence.

Adopted September 17, 1883.

HENRY A. DIX, City Clerk.

D. F. DEADERICK, Mayor.

Approved, September 19, 1883.

IOWA.

Health laws of 1880.

FRAUDULENT LARD.

[Chapter 137, Laws of 1880.]

AN ACT to prevent fraud in the sale of lard in certain cases.

SECTION 1. Be it enacted by the general assembly of the State of Iowa, That all persons or associations who shall engage in the business of selling lard rendered from swine that have died of hog cholera, or other diseases shall selling or offering to sell any such lard, plainly stamp, print, or write upon the cask, barrel, or other vessels containing such lard the words "Lard from hogs which have died from disease:" or, if sold without such cask, barrel, or other receptacles, the purchaser shall be informed that the lard is from hogs which have died of disease:

SEC. 2. For a violation of the provisions of the foregoing section the offender shall, on conviction thereof, be punished by a fine of not less than five dollars nor exceeding one hundred dollars, or imprisonment in the county jail not exceeding

thirty days.

Rules and regulations for the government of local boards of health in the State of Iowa.

DISEASED ANIMALS.

RULE. 12. No animal affected with an infectious or contagious disease shall be bought, sold, or kept within the jurisdiction of this board. And any animal affected with glanders shall, after notice from this board, be immediately killed and buried deep, without removing the hide from the carcass. Rule 13. No diseased animal, or its flesh and no decayed, diseased, or unfit

meat, fish, vegetables, or fruit, nor diseased, impure, or adulterated milk, nor other impure, diseased, or adulterated article used for food shall be sold or offered

for sale as food.9

WISCONSIN.

[From the city charter of the city of La Crosse, State of Wisconsin, Laws of 1882.]

19th. To establish public markets and make rules and regulations for the conduct and the government of the same; to appoint suitable officers for overseeing and regulating such markets, and to punish and restrain all persons from interrupting or interfering with the due observance of such rules and regulations; to license and regulate butchers' stalls, shops, and stands for the sale of game, poultry, meats, fish, and other provisions, and to regulate the sale or traffic in mer-chandise in the city of La Crosse as they may see fit, and have power to grant license for the sale or traffic in merchandise on such terms as they may deem proper.

[From the city ordinances of February, 1881.]

SECTION 4. If any person shall expose for sale any emaciated, tainted, measly, or putrid meat, fish, vegetables, or provisions of any kind, or the flesh of any sick or diseased animal which from these or other causes shall be deemed unwholesome, the person so offering them for sale shall forfeit the penalty of five dollars for each offense; and such unwholesome meat or provisions so exposed for sale shall be destroyed by the chief of police without delay.

Section 7. Whoever shall kill or cause to be killed for the purpose of sale any

calf less than four weeks old, or shall have in his or her possession, with intent to sell the same, the meat of any calf killed when less than four weeks old, shall, upon conviction thereof, be punished by a fine of not less than fifty dollars; and all such meat exposed for sale or kept with intent to make sale thereof may be seized and destroyed by the board of health, or by the chief of police, or by any policeman or health officer acting under his orders.

¹ See Code of 1873, secs. 4054, 4055, 4046, 4057, 4058, ² See Code of 1873, secs. 4035, 4036-4057, etc.

MINNESOTA.

City of Saint Paul, State of Minnesota.

[From the health ordinance of October 17, 1883.]

SEC. 96. That every butcher, grocer, and milk dealer and their agents shall allow the parties authorized by the health officer to freely and fully inspect their cattle and milk, meats, fish, and vegetables held, offered, or intended for sale, and will be expected to answer all reasonable and proper questions asked by such persons relative to the condition thereof and of the places where such articles may be,

MISSOURI.

[From the act establishing the State board of health.]

SEC. 15. The said board of health shall take cognizance of any fatal disease which may be prevalent amongst the domestic animals of this State and ascertain the nature and causes of such disease, and shall from time to time publish the result of their investigations, with suggestions for the proper treatment of such animals as may be affected and the remedy or remedies therefor.

Approved, March 29th, 1883.

KANSAS.

ORDINANCES OF CITY OF KANSAS.

[Compiled and revised in 1883 from ordinance No. 84.]

SEC. VIII. The owner or possessor or agent of the owner of any dumb animal which may die in this city shall, within twelve hours thereafter, cause the same to be removed beyond the city limits, under a penalty of five dollars for every additional twelve hours he shall allow the same to remain in the city, or dispose of the same as otherwise provided for in this ordinance; and no person or persons shall sell, expose, or offer for sale in this city, to be used as food or for culinary purposes, any unwholesome meat, or the flesh of any dead animal that was sick, overheated, or run down by dogs, or trampled upon or injured by any animal or animals, or injured by railroad cars or otherwise lefore the same was butchered or slain, or which died a natural death, or was killed by accident, casualty, or other means than the usual manner of slaying or butchering animals for market or food; nor shall any person or persons sell or offer to sell, to be used as food, any animals while living which may be sick or suffering from any of the causes above enumerated or from any other cause whatever. And it shall be the duty of any and every owner or other person interested in any such animal or meat to see that such animal or animals or meat does not pass into the hands of any person or dealer in meats who will or shall sell or offer to sell the same for food or culinary purposes, and it shall be the duty of said owner, agent, or person above specified to see to and provide that said animal, animals, or meat above specified is properly disposed of where and in such manner that said meat or animal will not and shall not be used for food or culinary purposes and in accordance with the provisions of this ordinance. The sale of any such animal or meat as herein specified by any person or persons to a dealer in meats shall be prima facie evidence, in any suit brought for the violation of this ordinance, against the person so selling the same, and the selling of any such meat by a dealer in meats to any person shall likewise be prima facie evidence against said dealer in any suit brought for the violation of this ordinance; and any animal or animals heretofore mentioned that has or have died or been maimed or bruised so as to be unfit for use shall be turned over to the person appointed by the mayor (which appointment is herein provided for) for such purposes, and it shall be the duty of said party so appointed to see that said animal or animals or meat passes into proper and safe hands, so that it may not be offered for sale for food or for culinary purposes, as herein prohibited, and any owner, agent, or person interested in such meat, animal, or animals shall receive just and sufficient recompense for the same before such person appointed by the mayor, as provided for herein, shall take or attempt to take such meat, animal, or animals, such price or compensation for the same to be determined by the agreement of the owner or agent of such animal, animals, or meat and the party appointed by the mayor; otherwise, and upon the failure of both the parties aforesaid, or either of them, to agree upon a price or compensation for such animal, animals, or meat and the terms of payment therefor, said owner, agent, or person interested in the same shall immediately cause the same to be removed, as heretofore provided for in this section and ordinance. The mayor shall appoint some suitable person whose

duty it shall be to see that the provisions of this section of this ordinance are carried into effect, and such person shall receive as compensation or remuneration for his services half of each and every fine which may be assessed against any person found guilty of violating the provisions of this section when the person is arrested and convicted on the complaint of the said person appointed by the mayor. Such person shall hold his office or position until his successor shall have been appointed, or until the mayor shall remove him, and in no case shall the city be liable for anything except as specially herein provided for. Any person or persons violating the provisions of this section shall be deemed guilty of a misdemeanor, and shall, upon conviction, be fined any sum not less than five nor more than one hundred dollars for each offense.

SEC. XI. No person shall slaughter any cattle, sheep, swine, or other animals within this city, except it be in a slaughterhouse, under a penalty of three dollars for each and every offense, and no person shall erect or maintain any slaughterhouse in this city without first obtaining a license therefor from the city council, under a penalty of five dollars for every day any house, structure, or building is

used for that purpose.

SEC. XII. Whenever any nuisance shall exist, or be found on any premises or elsewhere in this city, the mayor, city marshal, or his deputies may order the owner or occupant of such premises, or the person occasioning such nuisance, to remove or abate the same; and if the person so notified fail or refuse to remove and abate the same, according to the provisions of this ordinance, then the said officers, or either of them, may abate or remove the same at the expense of the party so failing or refusing; but if the owner, occupant, or agent of such premises is unknown, or can not be found, then the said officers shall remove the same at the expense of the city; provided, however, that nothing in this section shall be so construed as to conflict with or prevent prosecution under any other section or under this ordinance.

SEC. XIII. That if any person permit any nuisance or substance not hereinbefore mentioned to remain upon his premises, or upon any private or public grounds within this city, or shall be guilty of any violation of any of the provisions of this ordinance, such person shall be guilty of a misdemeanor, and shall, on

conviction, be fined not less than one nor more than one hundred dollars.

SEC. XIV. This ordinance to take effect and be in force from and after its passage and publication in the Wyandotte Gazette.

Approved this the 21st day of February, 1878.

Attest:

ELI TEED, Mayor.

A. H. DEPPE, City Clerk.

City of Kansas—Additional ordinances—Ordinance No. 216.

[First published December 8th, 1883.]

AN ORDINANCE providing for an elevated roadway, viaduct, or stock drive from the corner of Seventh and James streets to the stock yards of Plankinton and Armours, on the north side of Railroad alley.

Be it ordained by the mayor and councilmen of the city of Kansas, Kansas:

SECTION I. That it is deemed necessary and for the public good to build, erect, construct, and maintain an elevated roadway, viaduct, or stock drive, commencing at a point far enough west of James street in stock yard or lot to make a practical stock drive over James street, to be not less than sixteen (16) feet above the established grade of said street; thence east on the south side of Seventh street to a point opposite the alley between James and Ewing streets; thence northerly over 7th street not less than sixteen (16) feet above the established grade of 7th street; thence through the alley to 6th street; thence over 6th street not less than sixteen (16) feet above the established grade of said street to Railroad alley; thence over Railroad alley, at the same grade, into the lot now owned and occupied by Plankinton and Armours as a stock yard.

SEC. II. That the stock drive, when built, shall not be less than twelve (12) feet nor more than sixteen (16) feet wide, and shall not have any more than two spans from curb to curb in crossing any street, which shall rest upon iron columns not less than ten inches square, in center of street, which shall stand on large, flat stones, laid at least two feet below the grade of the street, and the remainder of the posts may be of pine or oak, not less than eight by ten inches square. The floor shall be laid in two thicknesses, joints broken, one of one inch and one of two inches, to prevent dust and filth dropping upon the people when passing on the streets; and the sides shall not be less than five (5) feet high, made of two-inch

plank, surfaced on the outside.

SEC. III. All the material used in the construction of the roadway or stock drive shall be of good, sound lumber, free from large knots or other defects, and the work shall be done in a good, substantial, and workmanlike manner, and all material standing in or over 6th, James, and 7th streets shall be dressed, and shall be painted with at least two coats of mineral paint.

SEC. IV. The entire cost of building, constructing, and maintaining the elevated railway or stock drive shall be borne and paid for by the firm of Plankinton & Armours, and shall be constructed without any material hindrance or obstruction to the traveling public, and they shall hold the city harmless from all damages to person or property caused by any negligence on their part while building said work or operating the same.

SEC. V. It shall be the duty of the parties using the railway or stock drive to at

all times to keep the same free from offal, mud, or other filth, and to prevent the

same from becoming a nuisance or damage to adjoining property.

SEC. VI. The above work shall be commenced within ninety days and be completed within one year from the passage and publication of this ordinance.

SEC. VII. This ordinance shall take effect and be in force from and after its pas-

sage and publication in the Kansas City Globe.

Approved Dec. 5th, 1883.

Attest:

R. W. HILLIKER, Mayor. H. C. STOUT, City Clerk.

Ordinance No. 217.

[First published December 8, 1883.]

AN ORDINANCE to prohibit bringing into this city, or keeping therein for sale, selling, or offering to sell, for any other than tanking purposes, any diseased or unwholesome meat, or any animal or carcass not in a fitting condition to be used as food or for culinary purposes as therein described, and to provide for the inspection of the same.

Be it ordained by the mayor and councilmen of the city of Kansas, Kansas:

SECTION I. No person shall bring into this city, or cause to be brought into it, in any manner, or sell or offer to sell, or keep on hand with a view to sell, or expose for sale (except for tanking purposes), any unwholesome meat, or the flesh of any dead animal that was sick, overheated, or run down or trampled upon, or injured by any animal or animals or injured in transportation on the cars, or otherwise, before the same was butchered or slain, or which died a natural death, or was killed by accident, casualty, or other means than the usual manner of slaying or butchering animals for market or food, or any cattle with enlarged upper or lower jaws, having ulcers or running sores, commonly called big-jawed cattle, or any animal fevered or emaciated from any known or unknown disease, or suffering from any disease whatever; hogs suffering from cholera, or any animal or animals, or the carcass of any animal of whatsoever kind in a condition unfit for food or culinary purposes: Provided, however, That sows heavy with pigs may be

brought into this city and sold under the supervision of the inspector.

Sec. II. All such meat and animals described in the previous section brought into or found at any point in this city shall be inspected by the inspector appointed by the city of Kansas, immediately after their arrival or discovery, and if found, on such inspection, to be unfit for food or culinary purposes, the owner or the person claiming to own the same, or the person in charge thereof, shall immediately, on the order of the inspector, remove and sell said meat, carcass, animal, or animals to any tanking or rendering establishment exclusively engaged in such business, and if no person can be found to own or claim to own or be in charge of such meat, carcass, or animals, then the inspector shall cause the same to be sold to the highest bidder and removed, and the price received after deducting expense of removal shall be subsequently paid to the owner or his agent: Provided, however, That said inspector may kill cattle found at any stock yards or other place with large upper or lower jaws, commonly called big-jawed cattle, having ulcers or running sores on them, cattle emaciated from any known or unknown diseases; hogs affected with the cholera or other diseases, or animals with broken limbs, that have become fevered, on the refusal of the owner, or the person in charge, or the person on claiming to own the same, to dispose of them and cause them to be removed after inspection, condemnation, and order of removal to a tanking or rendering establishment by the inspector, as herein provided, and after being killed the carcasses shall be removed as in other cases.

Sec. III. When said meat, or any of the said animals or carcasses above described, shall be conveyed into this city, or from any point in this city to any stock yards

therein, no such meat, animals, or carcasses shall be taken from any such stock vards before inspection, and any meat, carcasses, or animals condemned by the inspector as unfit for food or culinary purposes shall be transported by cars or other means to a rendering establishment as soon as practicable, and in a manner to conceal them and render their removal as inoffensive as possible to the public. And every stock yard doing business now in this city shall, within three days from the publication of this ordinance, designate the gates or passageways, under instruction of the inspector, through which only said meat, animals, or carcasses shall be taken to said cars or conveyances, and by them conveyed from the yards after inspection, when the same are ordered to the tanking establishment. no stock yards, or person or employé having authority to issue an order for the removal of any animal or carcasses from the yards, shall issue any such order for removal, or permit any such meat, carcass, or animals as in the first section described, to be removed or taken from the yards without first having the written or printed statement or certificate of the inspector that the same were inspected, and when such meat, animals, or carcasses are condemned, no stock-yard agent, officer, or employé thereof shall permit or allow the same to be taken from the stock yards in any manner except as hereinbefore provided. And when said meat, carcasses, or animals shall pass through and from the stock yards, they shall immediately and directly be conveyed to a rendering establishment.

SEC. IV. The mayor and council shall annually appoint an inspector of meats and animals usually offered or sold for food or culinary purposes, who shall be a practical butcher or skilled in diseases of animals. Such inspector shall hold his office for the period of one year, and until his successor shall be appointed and qualified, unless sooner removed for cause. He shall give bond in the sum of one thousand dollars (\$1,000), with sureties to be approved by the council, and shall perform the following duties, viz: He shall daily attend all stock yards and other places in this city where meats are sold or offered for sale, and where animals used for food or culinary purposes are slaughtered or kept for slaughter or for sale, or suspected to be kept and shall make diligent inspection of all meats agreeage. suspected to be kept, and shall make diligent inspection of all meats, carcasses, and animals so kept, found, or offered for sale at any point in the city; and any such meat, carcasses, or animals found unfit for food or culinary purposes he shall condemn and order to a tanking or rendering establishment; and in an especial manner is it made his duty to make diligent search at the stock yards and other places in the city for the classes of meat, carcasses, and animals in this ordinance described, and to inspect the same, and make the proper disposition thereof as provided by this ordinance to prevent the same from being sold or used for food or culinary purposes, through avarice, fraud, or connivance of any parties. said inspector shall not, directly or indirectly, become interested in any such meat or animals, as owner or otherwise, nor shall he receive any fee or reward from any owner or person interested in the disposition of such carcasses, meats, or animals.

SEC. V. The said inspector shall receive for his services an annual salary of nine hundred dollars (\$900), payable monthly in the scrip of the city at its face value. He shall have free access to all places, yards, packing houses, or other places where such meat, carcasses, or animals may be found; and the stock yards, its agents, officers, and servants, when any such meat, carcasses, or animals are at its yards, shall be diligent to direct the attention of the inspector to them for inspection, and to give information of any failure in the discharge of his duty to the mayor of the city; and it is made its duty to hang up at three or more of the most public places in its yards framed copies of this ordinance.

And the said inspector is hereby authorized to make arrests on view for any violation of this ordinance, with full special police powers and authority as though he were specially appointed and commissioned therefor, and shall bring all parties

arrested before the police judge for trial as soon as may be.

SEC. VI. All persons violating any provision of this ordinance, either by a positive act, or a failure, refusal, or neglect to act, or violating any of its provisions in any manner in which they or any of them may be violated, shall be guilty of a misdemeanor and punished by fine not exceeding one hundred dollars (\$100) or by imprisonment not exceeding three months, or by both such fine and imprisonment.

And the Kansas City Stock Yards, as far as in its province, scope, and sphere

lies, is charged with the enforcement of the provisions hereof.

SEC. VII. This ordinance shall take effect and be in force from and after its passage and publication in the Kansas City Globe.

Approved December 5th, 1883.

R. W. HILLIKER, Mayor.

Attest: '

H. C. STOUT, City Clerk,

MICHIGAN.

Laws relating to the public health, 1875.

[Chapter one hundred and fifty-nine of Revised Statutes of 1846.]

(133) SECTION 1. If any person shall knowingly sell any kind of diseased, corrupted, or unwholesome provisions, whether for meat or drink without making the same fully known to the buyer, he shall be punished by imprisonment in the county jail not more than six months or by fine not exceeding two hundred dollars. (§ 7726.)

A BILL to incorporate the Butchers' Slaughtering, Melting, and Cattle Yard Association of Detroit, and for other purposes.

SEC, 10. Said board of health, mayor, and controller of the city of Detroit are hereby authorized to make whatever regulations may seem to them fit in order to

prevent the slaughter and sale of animals unfit for human food.

Sec. 11. Any meat brought to the city of Detroit for sale, except from the slaughterhouse of said corporation, shall be first taken by the owner thereof to the central market for inspection by the proper officer before the same shall be sold or offered for sale. The penalty for violation of this section shall not be less than one hundred dollars nor more than five hundred dollars, or imprisonment in the Detroit house of correction not less than thirty nor more than sixty days.

Sec. 17. The meat inspector and members of the police of said city shall cooper-

SEC. 17. The meat inspector and members of the police of said city shall cooperate with said board in all matters pertaining to the abatement of nuisances and the preservation of the public health, and upon the requisition of said board the superintendent of police shall cause the notices of said board to be served and complaints to be made for violations of the health ordinances of said city,

[From the first annual report of the board of health of the city of Detroit, 1882.]

INDIANA.

Laws passed at the fifty-second regular session, 1881,

SEC. 193. Whoever overdrives, overloads, tortures, torments, deprives of necessary sustenance, or unnecessarily or cruelly beats, or needlessly mutilates or kills any animal, or impounds or confines any animal in any place and fails to supply the same during such confinement with a sufficient quantity of good, wholesome food and water, or carries in or upon any vehicle or car, or otherwise, any animal in a cruel manner, or feeds cows on food that produces impure or unwholesome milk, or abandons to die any maimed, sick, infirm or diseased animal, or being a person or corporation engaged in transporting live stock, detains such stock in railroad cars or compartments for a longer continuous period than twenty-eight hours, after the same are so placed, without supplying the same with necessary food, water and attention, or permits such stock to be so crowded together as to overlie, wound, crush or kill each other, shall be fined not more than two hundred dollars nor less than five dollars.

Sec. 194. Whoever knowingly permits any horse, mare, or gelding, affected with the glanders to be taken from his or her premises or to run at large, shall be fined

not more than one hundred dollars nor less than five dollars.

SEC. 195. Whoever drives or in any manner brings Texas or Cherokee cattle into this State at any time before the first day of October and after the first day of April in any year, and whoever purchases such cattle sc driven or brought, shall be fined not more than one thousand dollars nor less than one hundred dollars, to which may be added imprisonment in the county jail not more than one year; but nothing in this section shall be so construed as to prevent the transit of any cattle through this State on the railroads to other States, nor shall the provisions of this section apply to any cattle that shall have been during all the previous winter north of the thirty-eighth degree of latitude, and in all prosecutions under this section the legal presumption shall be that such cattle had not been during all the previous winter north of the thirty-eighth parallel of latitude.

SEC. 220. Whoever packs, brands, or sells, or causes to be packed, branded, or sold, any salt, beef, pork, flour, tobacco, or hay in barrels or packages, as full barrels or packages when such barrels or packages do not contain the weight which by law they are required to contain, shall be fined not more than one hundred

dollars nor less than ten dollars.

SEC. 221. Whoever alters or erases any brand or mark of any inspector appointed

by proper authority, placed on any barrel of salt, flour, beef, pork, or hogshead of tobacco, or other article authorized by law to be inspected and branded, shall be fined not more than one hundred dollars nor less than five dollars.

OHIO.

[From the sixteenth annual report of the health department of the city of Cincinnati, September, 1882.]

AN ORDINANCE to amend an ordinance entitled "An ordinance supplementary to an ordinance to provide for the abatement of nuisances," passed June 14, 1867.

Section 1. Slaughtering, and slaughtering pens; how regulated.—Be it ordained by the city council of the city of Cincinnati, That it shall be unlawful for any butcher or any other person to kill or slaughter any beeves, calves, sheep, hogs, or other animals within said city, except in the house, yard, pen, or place where killing shall take place shall have a perfectly water-tight floor, in which there shall be no breaking of joints nor openings of any kind for any purpose, excepting such as shall have a water-tight tube with grating, one-half inch holes, making a direct connection with the sewers, and the earth beneath it made sufficiently solid to prevent its becoming the receptacle of filth and offensive matter; also, no hog or any other animal shall be permitted to run or remain under any slaughterhouse; and moreover, the whole shall be washed and cleansed at the end of each day; and further, that each slaughterhouse or place occupied for killing of animals, as aforesaid, shall be whitewashed at least once every month between the first of April and the first of November in each year.

SEC. 3. No person shall kill any cow, sheep, or hog that is pregnant, nor shall any animal be slaughtered while it is in an overheated or feverish condition; and the meat of any such animal shall not be held or sold or offered for sale for human

food in any market or elsewhere in this city.

SEC. 4. No person shall bring into the city, or sell, or offer for sale, any cattle unfit for use, or cattle which has been exposed to or that are liable to communicate the "cattle disease," nor the meat nor milk of any such cattle. All such cattle, meat, and milk shall be confiscated and destroyed.

Sec. 5. No cased, blown, plaited, raised, stuffed, putrid, impure, or unhealthy or unwholesome meat, or the meat of any animal that may have died of disease or accident, or fish, or birds, or fowls, shall be held, bought, or sold, or offered for sale for human food, or held or kept in any market, public or private, in this city.

Sec. 6. No calf, pig, or lamb, or the meat thereof, shall be bought, held, or offered for sale for human food in this city, which when killed was less than one

month old.

SEC. 15. No cattle shall be kept in any place of which the water, ventilation, and food is not sufficient and wholesome for the preservation of their health and

safe condition for food.

SEC. 2137. Penalty for violating order of board of health.—Whoever violates any provision of this chapter, or any order of the board of health made in pursuance thereof, or obstructs or interferes with the execution of any such order, or willfully and illegally omits to obey any such order, shall be fined in any sum not exceeding one hundred dollars, or imprisoned for any time not exceeding ninety days, or both; but no person shall be imprisoned under this section for the first offense.

For a failure to comply with any or all of the foregoing rules and regulations, the superintendent of the sanitary police is directed to cause the arrest of the person or persons so offending, either on view or by warrant from the police court of the city of Cincinnati.

Passed by the board of health November 3, 1881.

A. J. MILES, M. D., Health Officer. W. C. WILLIAMS, Clerk.

[From the sanitary ordinances of the city of Cleveland, 1882.]

SEC. 70. No person or persons shall bring into the city, or sell or offer for sale for human food in any market, public or private, any cattle, sheep, hog, or lamb, nor any meat, fish, game, or poultry that is diseased, unsound, unwholesome, or that for any other reason is judged to be unfit for human food. The fact that any cattle, sheep, hog, or lamb being in any stock-yard or slaughterhouse pen shall be considered sufficient evidence that the same is being exposed there for sale; and the fact that the carcass of any cattle, hog, sheep, or lamb, or any part thereof, is found in any slaughterhouse or any public or private market or place, dressed and

prepared as such meats usually are for market, shall be deemed sufficient evidence that the same is for sale for human food; and no animal nor any part thereof, nor any fish, game, or poultry that has been examined and condemned by the inspector or his assistants, shall be held, sold, or offered for sale for human food in any market or place in the city.

Sec. 71. No person or persons shall kill for human food any cow, sheep, or hog

SEC. 71. No person or persons shall kill for human food any cow, sheep, or hog that is pregnant, nor shall any animal be slaughtered for human food while it is in an overheated or feverish condition; and the meat of any such animal shall not be held or sold or offered for sale for human food in any market or elsewhere in

the city.

SEC. 72. No person or persons shall bring into this city, or sell or offer for sale, any cattle unfit for use for human food, or cattle which have been exposed to or that are liable to communicate the cattle disease, nor the meat or milk of any such cattle.

SEC. 73. No cased, blown, plaited, raised, stuffed, putrid, impure or heated or unwholesome meat, or the meat of any animal, fish, bird, or fowl, that may have died of disease or accident, shall be held, bought, or sold, or offered for sale for human food, or held or kept in any market, public or private, in the city.

SEC. 74. No calf, pig, or lamb, or the meat thereof, shall be bought, held. sold, or offered for sale for human food in the city which, when killed, was less than

one month old.

SEC. 81. Upon any cattle, meats, birds, fowl, fish, vegetable, or other substances and materials used for human food being found by any inspector or other officer of said board in a condition which is, in his opinion, unwholesome and unfit for human food, or in a condition or of a quality in any ordinance or section of an ordinance of the city condemned or forbidden, he shall cause the same to be examined by two reputable persons, reasonably competent to judge in respect thereto, whom he may conveniently find; and if both said persons disagree with him in opinion in respect thereto, he shall take no action and give no order relative to the same till he has been instructed by the health officer; and if one of said persons agree with him in respect to said articles, then such inspector or officer may forbid the same being offered or exposed for sale, or being sold for human food till the owner or party in charge, or other proper person, has obtained the consent of the health officer, or of said board, to their being so offered, used, or sold. If both such persons agree with him in opinion, he may order the same to be removed, and thereupon, or if said board or health officer shall have approved the judgment of said inspector, it shall be the duty of the owner or party in charge to speedily remove such articles, materials, or substances from any market, street, or place, public or private, and not sell or dispose, or offer to sell and dispose thereof for the purpose of human food. In default of such removal, and also in case of disobedience of such order, and also in all cases where, in the opinion of the inspector of such articles, materials, or substances, by reason of their being in a damaged or offensive condition would, if allowed longer to remain, be dangerous to health, the same may be caused to be removed by any inspector or officer of said board to some suitable place, at the expense of the party who should have removed the same.

SEC. 82. It shall be unlawful for any person or persons to molest or resist any member of said board or their deputies, or its health officer, in the discharge of

their duties.

SEC. 109. Upon the death of any animal in the city, the same not having been killed for human food, the owner or keeper thereof, or person killing the same, shall report the same to one of the police stations of this city within eight hours after the death of such animal.

NEW YORK.

City of Buffalo-Ordinances, 1882.

§ 10. Every person who shall keep fresh meat for sale shall keep the place at which the same shall be exposed for sale in a cleanly and wholesome condition, and free from all noxious or offensive odors; and every person offending against the provisions of this section shall forfeit and pay the sum of ten dollars for each and every offense.

§ 11. Every person who shall sell or expose for sale, or cause to be sold or exposed for sale, in this city any unwholesome, stale, emaciated, blown, stuffed, tainted, bruised, putrid, or measly meat, poultry, or provisions, shall forfeit and pay a

penalty of twenty-five dollars for each and every offense.

§ 12. Every person who shall sell, offer, or expose for sale, or cause to be sold, offered, or exposed for sale in the city of Buffalo, any bruised or diseased cow,

heifer, ox, steer, bullock, hog, sheep, lamb, or calf, shall forfeit and pay a penalty

of twenty-five dollars for each and every offense.

§ 25. The board of health shall appoint a scavenger and a cattle inspector. It shall be the duty of the scavenger to remove to such place or places as the board of health shall designate, all dead animals that may be found in the streets, alleys, or public grounds of the city, and for this purpose he shall report to the street commissioner's office and at police headquarters once each day, Sundays excepted, to receive such orders as may there be given him for the removal of carcasses from the streets. It shall be the duty of the cattle inspector to be present at the arrival of all cattle trains in the city of Buffalo, or as soon thereafter as practicable.

\$ 26. He shall immediately notify the owner, agent, or consignee of any dead cattle, hogs, sheep, or lambs that may arrive in the city of Buffalo, to take the same to some bone yard within four hours after the train upon which they arrived is unloaded. In case any such owner, agent, or consignee shall refuse or neglect to so take the same within the time herein prescribed, it shall be the duty of the cattle inspector, and he shall have power to forthwith remove the same to some

bone yard and dispose of the same to the best advantage.

\$ 27. It shall be the duty of the owner, agent, or consignee of any diseased or injured cattle, hogs, sheep, or lambs which may arrive in the city of Buffalo, and are unfit to be sold in the market, to cause the same to be immediately killed in some slaughter house adjoining the cattle yards, and sent to some bone yard.

§ 28. It shall be the duty of the owner, agent, or consignee of any injured cattle, sheep, hogs, or lambs which may arrive in the city of Buffalo and are fit to be sold in the market, to be immediately slaughtered, dressed, and prepared in one of the slaughter houses adjoining the cattle yards when in the judgment of the

cattle inspector it is deemed necessary.

§ 30. Any person violating any of the provisions of sections twenty-five, twentysix, twenty-seven, twenty-eight, and twenty-nine of this chapter, shall forfeit a penalty to the city of Buffalo of not less than five nor more than twenty-five dollars.

[From the rules and regulations of the board of health, city of Albany, April, 1882.]

§ 7. No meat, fish, birds, or fowl, or vegetables, nor any milk not being then healthy, fresh, sound, wholesome, and safe for human food, nor any meat or fish that shall have died by disease or accident, shall be brought within the city of Albany, or offered or held for sale in any public or private market anywhere in said city.

§ 9. No cattle shall be killed for human food while in an overheated, feverish, or diseased condition; and all such diseased cattle, and the place where found and their disease shall be at once reported to this board by the owner or custodian

thereof.

§ 15. The word "cattle" when occurring in any section or phrase of these ordinances, shall be held to include all animals except birds, fowl, and fish, of which the body or any part thereof is used for food. The word "butcher" shall be held to include whoever is engaged in the business of keeping, driving, or slaughtering any cattle, or in selling any meat.

§ 14. The keeping and slaughtering of all cattle, and the preparation and keeping of all meat and fish, birds and fowls, shall be in that manner which is, or is generally, reputed or known to be best adapted to secure and continue their safety and wholesomeness as food. No slaughtering of cattle shall be permitted in the

city of Albany without a special permit from this board.

§ 50. Every person who violates or refuses to comply with, or who resists any of the provisions of this Code of Sanitary Ordinances, or any of the rules, orders, sanitary regulations, or ordinances established or declared by this board under or pursuant to any of the provisions of chapter 431 of the Session Laws of 1881, will be liable to the arrest, suit, penalty, fine and punishment in said law provided and declared, of all of which notice must be taken.

MASSACHUSETTS.

[From the Manual for the use of boards of health of the State of Massachusetts. Prepared by direction of the State board of health, lunacy, and charity.]

INSPECTION AND SALE OF PROVISIONS AND ANIMALS INTENDED FOR SLAUGHTER.

102. The mayor and aldermen of cities, and the selectmen of towns, may annually appoint one or more persons to be inspectors of provisions and of animals intended for slaughter. Such inspectors shall be sworn faithfully to discharge the duties of their office, and shall receive such compensation as the city council or the selectmen shall determine.

103, Said inspectors may inspect all animals intended for slaughter, and all meats, fish, vegetables, produce, fruits, and provisions of all kinds. found in said cities or towns, or exposed for sale or kept with intent to sell therein: and may for this purpose enter into all buildings or inclosures where said animals, meats, fish, vegetable produce, fruits, or provisions are kept, stored, or exposed for slaughter or sale. When such animals, meats, fish. vegetables, produce, fruit, or provisions are found on such inspection to be tainted, diseased, corrupted, decayed, or unwholesome from any cause, said inspectors shall seize the same and cause them or it to be destroyed or disposed of otherwise than for food; but if at the time of the seizure the owner of the property seized notifies, in writing, the inspector seizing the same, of his desire to appeal to the board of health, said inspector shall cause said animals, meat, fish, vegetables, produce, fruit, or provisions to be inspected by said board of health, or by a committee thereof consisting of not less than two members; and if said board or committee find the same to be tainted, diseased, corrupted, or unwholesome, they shall order the same to be destroyed or disposed of otherwise than for food; if said board or committee do not so find, they shall order said animals, meat, fish, vegetables, produce, fruits, or provisions to be forthwith returned to the owner thereof. All moneys received by said inspectors or board of health for property disposed of as aforesaid shall, after deducting all expenses incurred by reason of such seizure, be paid to the owner of such property.

105. When complaint is made on oath to any police, district, or municipal court, or to a magistrate authorized to issue warrants in criminal cases, that the complainant believes that any diseased animals, or any tainted, diseased, corrupted, decayed, or unwholesome meat, fish, vegetable, produce, fruit, or provisions of any kind, or any veal of a calf killed under four weeks old, are kept or concealed in a particular house or place with the intent to kill, sell, or offer the same for sale for food, the court or magistrate, if satisfied there is reasonable cause for such belief, shall issue a warrant to search for such animals or articles, and all such warrants shall be directed and executed as provided in section three of chapter two hundred and twelve of the public statutes. If, upon hearing, said court or magistrate determines that said animals or articles or any of them were kept or concealed for the purposes aforesaid, the same shall be destroyed or disposed of by the inspector, or by any officer designated by the court or magistrate according to the preceding provisions; if the court or magistrate does not so determine, said animals or articles shall be returned to the owner.

106. Whoever knowingly sells, or offers or exposes for sale, or has in his possession with intent to sell for food, any diseased animal, or any tainted, diseased, corrupted, decayed, or unwholesome meat, fish, vegetables, produce, fruit, or provisions of any kind whatever, shall be punished by imprisonment in jail for not

more than sixty days, or by fine of not more than one hundred dollars.

109. Whoever knowingly sels any kind of diseased, corrupted, or unwholesome provisions, whether for meat or drink, without making the same fully known to the buyer, shall be punished by imprisonment in the jail not exceeding six months,

or by fine not exceeding two hundred dollars.

The gist of the offense under this section consists in the guilty knowledge or evil intent of a party in selling what he knows to be unfit for food. The sale, of itself, is not made criminal; but it is the sale coupled with the knowledge of the diseased state of the thing sold which constitutes the offense.

CONTAGIOUS DISEASES AMONG CATTLE.

143. The mayor and aldermen of cities and the selectmen of towns, in case of the existence in this Commonwealth of the disease called pleuro pneumonia among cattle, or farcy or glanders among horses, or any other contagious or infectious disease among domestic animals, shall cause the animals in their respective cities and towns, which are infected, or which have been exposed to infection, to be secured or collected in some suitable place or places within their cities or towns, and kept isolated; and, when taken from the possession of their owners, one-fifth of the expense of their maintenance shall be paid by the city or town wherein the animal is kept, and four-fifths by the Commonwealth: such isolation to continue so long as the existence of such disease or other circumstances may render it

144. The mayor and aldermen and selectmen, respectively, when any such animal is adjudged by a veterinary surgeon or physician by them selected to be infected with any contagious disease, may in their discretion order such diseased animal to be forthwith killed and buried at the expense of such city or town.

145. They may cause all such animals to be appraised by three competent and

disinterested men under oath, at the value thereof at the time of the appraisement, and the amount of the appraisement shall be paid as provided above.

146. They may, within their respective cities and towns, prohibit the departure

of animals from any inclosure, or exclude animals therefrom.

147. They may make regulations in writing, to regulate or prohibit the passage from, to, or through their respective cities or towns, or from place to place within the same of any cattle or other domestic animals, and may arrest and detain, at the cost of the owners thereof, all animals found passing in violation of such regulations, and may take all other necessary measures for the enforcement of such prohibition, and also for preventing the spread of any disease among the animals to their respective cities and towns, and the immediate vicinity thereof.

148. Such regulations shall be recorded upon the records of their cities and towns respectively, and shall be published in such cities and towns in such

manner as may be provided in such regulations.

149. They may cause every animal infected with any such disease, or which has been exposed thereto, to be forthwith branded upon the rump with the letter P; and no animal so branded shall be sold or disposed of except with the knowledge and consent of such mayor and aldermen and selectmen. A person who, without such knowledge and consent, sells or disposes of an animal so branded, or sells or disposes of an animal known to be affected with such disease, or to have been exposed thereto within one year previous to such sale or disposal, shall be punished by fine not exceeding five hundred dollars, or by imprisonment not exceeding one year.

150. Any person disobeying the orders of the mayor and aldermen or selectmen, made in conformity with the preceding provisions, or driving or transporting any animals contrary to the regulations made, recorded, and published as aforesaid, shall be punished by fine not exceeding five hundred dollars, or

by imprisonment not exceeding one year.

151. Whoever knows or has reason to suspect the existence of any such disease among the animals in his possession or under his care shall forthwith give notice thereof to the mayor and aldermen of the city or selectmen of the town where such animals are kept. and for failure so to do shall be punished by fine not exceeding five hundred dollars, or by imprisonment not exceeding one year.

152. A city or town whose officers neglect or refuse to carry into effect the preceding provisions shall forfeit a sum not exceeding five hundred dollars for

each day's neglect.

153. The mayor and aldermen of cities and selectmen of towns, when in their judgment it is necessary to carry into effect the purposes of this chapter, may, within their respective cities and towns, take and hold, for a term not exceeding one year, any land, without buildings other than barns thereon, upon which to inclose and isolate any animals; and they shall cause the damages sustained by the owner in consequence of such taking and holding to be appraised by the assessors of the city or town wherein the lands so taken are situated; and they shall further cause a description of such land, setting forth the boundaries thereof, and the area as nearly as may be estimated, together with said appraisement, to be entered on the records of the city or town. The amount of said appraisement shall be paid, as before provided, in such sums and at such times as the mayor and aldermen or selectmen respectively may order. If the owner of land so taken is dissatisfied with said appraisement, he may, by action of contract, recover of the city or town wherein the lands lie a fair compensation for the damages sustained by him; but no costs shall be taxed unless the damages recovered in such action, exclusive of such interest, exceed said appraisement; and the Commonwealth shall reimburse to the city or town four-fifths of any sum recovered of it in any such action.

154. The governor, with the advice and consent of the council, may appoint a board of cattle commissioners of not more than three members, when in his judgment the public safety may require it, and may terminate their commissions when in his judgment the public safety may permit it. The compensation of such commissioners shall not exceed four dollars per day for actual

service, in addition to their traveling expenses necessarily incurred.

155. When such commissioners make and publish any regulations concerning the extirpation, cure, or treatment of animals infected with, or which have been exposed to any contagious disease, such regulations shall supersede those made by mayors and aldermen and selectmen; and mayors, aldermen, and selectmen shall carry out and enforce all orders and directions of the commissioners to them directed.

156. Such commissioners shall have all the power and authority herein conferred upon mayors, aldermen, and selectmen; and, in addition, may establish a hospital

or quarantine, with proper accommodations, wherein any cattle selected by them may be detained and treated by veterinary surgeons or physicians. And for this purpose the commissioners may take any land and buildings in the manner before provided.

157. Mayors and aldermen and selectmen, within twenty-four hours after they have notice that any domestic animal in their respective cities and towns are infected with or have been exposed to any such disease, shall give notice thereof in

writing to the commiss oners.

158. The commissioners may make all necessary regulations for the treatment, cure, and extirpation of such disease, and may direct mayors, aldermen, and selectmen, respectively, to enforce and carry into effect all such regulations as may from time to time be made for that end, and any such officer who refuses or neglects to enforce and carry out any regulation of the commissioners shall be punished by fine not exceeding five hundred dollars for every such offense.

159. The commissioners, when in their judgment the public good requires it, may cause to be killed and buried any domestic animals which are infected with or have been exposed to such disease; and, except as provided in the following sect on, shall cause such animals to be appraised in the manner provided above, and the appraised value of such animals shall be paid, one-fifth by the cities or towns in which such animals were kept, and the remainder by the Commonwealth.

160. In all cases of farcy or glanders, the commissioners, having condemned the animal infected therewith, shall cause such animal to be killed, without an appraisement, but may pay the owner an equitable sum for the killing and burial

thereof.

161. A person who fails to comply with a regulation made or an order given by the commissioners shall be punished by fine not exceeding five hundred dollars, or by imprisonment not exceeding one year.

162. Prosecutions under the preceding section may be maintained in any county.
163. All appraisements made shall be in writing and signed by the appraisers and certified by the mayors and aldermen or selectmen or commissioners, respectively, to the governor and council and to the treasurers of the several cities and towns

wherein the cattle appraised were kept.

164. The commissioners may examine under oath all persons believed to possess knowledge of material facts concerning the existence or dissemination or danger of dissemination of diseases among domestic animals, and for this purpose shall have all the powers vested in justices of the peace to take depositions and to compel witnesses to attend and testify, by chapter one hundred and sixty-nine of the Public Statutes. All costs and expenses incurred in procuring the attendance of such witnesses shall be allowed and paid to the commissioners from the treasury of the Commonwealth upon being certified to and approved by the governor and council.

165. Whenever animals exposed to contagious diseases are killed by order of the commissioners, and upon a post-mortem examination are found to have been entirely free from disease, the commissioners shall cause the same to be sold under their direction, first giving to the purchaser notice of the facts; and if the said purchaser or any other person shall sell sa dslaughtered animals, or any part thereof, he shall in like manner give notice to the parties to whom such sales are made, and the proceeds of the sales made by order of the commissioners shall be applied in payment of the appraised value of said animals.

of the appraised value of said animals.

166. Whoever violates any of the provisions of the preceding section shall be punished by fine not exceeding one hundred dollars and the costs of prosecution.

167. Cattle commissioners, now or hereafter appointed, shall keep a full record of their doings, and report the same to the legislature on or before the tenth day of January in each year, unless sooner required by the governor; and an abstract of the same shall be printed in the annual report of the State board of agriculture.

City of Boston, State of Massachusetts.

[From the statutes and ordinances relating to the public healths, 1878.]

INSPECTION OF PROVISIONS.

99. The mayor and aldermen of cities and the selectmen of towns may annually appoint one or more persons to be inspectors of provisions, who shall be sworn to faithfully discharge the duties of their office, and who shall receive such compensation as the city council of cities or the selectmen of towns shall determine.

100. Said inspectors shall have power to inspect all meats fish, vegetables, produce, and provisions of all kinds brought into said cities or towns, or exposed for sale or kept with intent to sell therein, and may for this purpose enter into all buildings where said meats, fish, vegetables, produce, or provisions are stored or

exposed for sale. When such meats, fish, vegetables, produce, or provisions are found on such inspection to be tainted, diseased, corrupted, decayed, or unwholesome from any cause, said inspectors shall seize the same and cause it to be destroyed or disposed of otherwise than for food: Provided, however, That if the owner of the property seized shall at the time of seizure notify said inspector in writing of his desire to appeal to the board of health, said inspector shall cause said meat, fish, vegetables, produce, or provisions to be inspected by said board of health or by a committee thereof, consisting of not less than two members, and if said board or committee shall find the same to be tainted, diseased, corrupted, or unwholesome, they shall order the same to be destroyed or disposed of otherwise than for food. All moneys received by said inspector or board of health for property disposed of as aforesaid shall, after deducting all expenses incurred by reason of said seizure, be paid to the owner thereof.

101. Said inspectors shall have power to inspect all veal brought into said cities or towns, or offered or exposed for sale or kept with intent to sell therein, and if said veal is. in the judgment of the inspector, that of a calf killed under four weeks old, he shall seize the same and cause it to be destroyed or disposed of, as provided in the preceding section, subject, however, to the same provisions concerning appeal

and the disposal of moneys that are therein contained.

10?. When complaint is made on oath to any police court or magistrate authorized to issue warrants in criminal cases, that the complain int believes that any tainted, diseased, corrupted, decayed, or unwholesome meat, fish, vegetables, produce, or provisions of any kind, or any veal of a calf killed under four weeks old is kept or concealed in any particular house or place with the intent to sell or offer the same for sale, the court or magistrate, if satisfied there is reasonable cause for such belief shall issue a warrant to search for such articles, and all such warrants shall be directed and executed as provided in the third section of chapter one hundred and seventy of the General Statutes.

103. Whoever knowingly sells, or offers or exposes for sale, or has in his possession with intent to sell as articles of food any tainted, diseased, corrup ed, decayed, or unwholesome meat, fish, vegetables, produce, or provisions of any kind whatever, shall be punished by imprisonment in jail not exceeding sixty days, or by

fine not exceeding one hundred dollars.

MANAGEMENT OF STOCK-YARDS.

The time that hogs are held by the owner or consignee in the stock yards, before sold to the packers, is usually very short. Frequently they are sold on the day of their arrival, but are often held for better prices. The cost of keeping animals at the yards is so high that they can not be profitably kept for any length of time. No animals can enter or leave the yards without a "gate order" from the company

as previously stated.

In order to ascertain the system of receipt and care of hogs in the stock yards, the municipal regulations and modes of inspection, and also the methods adopted by the Illinois Humane Society in enforcing the laws regarding cruelty to animals, the following questions were addressed to George Titus Williams, esq., the general superintendent of the Union Stock Yards: to John G. Shortall, esq., president of the Illinois Humane Society, and Will am Mitchell, agent of the same society, and to Oscar De Wolf, M. D., commissioner of health of the city of Chicago, and Matthew Lamb, the meat inspector of the health department, stationed at the stock yards:

QUESTIONS.

1. Is any examination made before unloading from cars to detect diseased or injured hogs?

- 2. If so, what regulations govern such examination?3. When does "delivery" by railroad company take place?4. Are any special instructions given in regard to care in unloading?
- 5. What is done with hogs found to be sick, diseased, bruised, or crippled?
- 6. What is done with hogs found smothered? 7. What is done with hogs dead from disease?

8. Are they sold?
9. To whom?

- 10. For what purpose? Where are they sent?
- 12. How are they transported? 13. What is done with healthy hogs on their arrival?
- 14. When are they fed?

15. What kind of food is given them?

16. What quantity?

17. How is it furnished to them?

18. Are they watered?

19. When?

20. How is the water furnished to them?

21. What quantity?
22. In the absence of orders by owners or consignces of hogs, have you any regulations authorizing the feeding and watering of hogs:

23. How are the hogs cared for in bad weather? 24. How many hogs die in the yards?

25. From what cause?

26. What is done with them?27. What is done with diseased hogs if discovered in the pens? 27. What is done with diseased hog 23. How are these hogs disposed of

29. How arranged to receive hogs from cars?

30. What is the size of the pens? 31. How are they protected?

32. Are they drained?

33. How can they be cleaned?

34. What are the regulations in regard to keeping the pens clean?

35. What measures are adopted to disinfect pens where diseased hogs have been? 36. Is there any inspection made of the sanitary condition of the yards or the condition and care of the hogs?

- 37. If so, under what authority? 38. Is such inspection sufficiently effective to secure the sanitary condition of the premises and prevent any hogs, diseased or in improper condition, going into food?
 - 39. What is the amount of business done annually?

40. What are your total receipts?

41. What is the average weight of hogs for the year?

42. What is total value of hogs received?

43. Please state what system of supervision is adopted to prevent any diseased hogs going into food, and under what authority such supervision is exercised, whether municipal, State, or the national or local humane society.

Replies of G. Titus Williams, superintendent of the Union Stock Yards.

Question 1. In answer to your first question I have to say there is no examination made in cars. But city and State health officers are here to examine stock after taken from cars.

Question 2. No regulations for examination in cars.

Question 3. When stock is taken from cars.

Question 4. Yes. Employees are directed to handle all stock with care, and State and city humane officers are constantly in the yards to see that all stock is properly treated.

Question 5. State and city health officers condemn all diseased animals and kill them, and they are turned over to the Rendering Company and sent to Globe, 24 miles from here, where they are rendered into grease.

Question 6. Hogs found smothered are all sent to Globe for the purposes aforesaid.

Question 7. Hogs dying from disease are treated the same way as 6.

Question 8. Yes. Question 9. To Union Rendering Company at Globe.

Question 10. To be rendered into soap grease and oil grease. Question 11. To Globe. Question 12. In box cars. Question 13. Yarded in covered and floored pens. Question 14. As soon as yarded.

Question 15. Corn.

Question 16. About 2 bushels to a carload.

Question 17. Union Stock-Yard Company delivers it in pens from wagons. Question 18. Yes.

Question 19. Soon after arrival.

Question 20. There is a hydrant and trough in each pen, with plentiful supply of pure water.

Question 21. Unlimited quantity. Question 22. Yes; all stock is fed and watered by the company when no one in charge, or when neglected by owner or consignee.

Question 23. Hogs are kept in covered pens with plank flooring in good and bad weather alike.

Question 24. Not to exceed 1 in 10,000.

Question 25. Mostly from being overheated, and other accidents.

Question 26. All sent to Globe, where all dead animals are sent by authority of

the board of health.

Question 27. When diseased animals are discovered in the pens, the health officers condemn and kill them as above described. A diseased hog is rarely seen in the pens. I have not known of a single diseased hog being in these yards in two years. Question 28. If any, would be disposed of as above stated in 27, and sent to Globe.

Question 29. Cars are sent to a platform even with the car, and a bridge fitted in the doorway, and hogs and other animals driven over platform down an inclined plane into the yards.

Question 30. Pens vary in size; to accommodate from 1 to 5 carloads of hogs,

allowing 500 square feet to each carload.

Question 31. By plank floor and roof. Question 32. Yes. Question 33. They are cleaned by men with carts and teams.

Question 34. A sufficient force of men are kept constantly at work cleaning the

Question 35. If diseased hogs should be discovered in any pen it would be

thoroughly cleaned before other hogs would be allowed to be put in.

Question 36. A State agent is stationed at the yards, appointed by the governor for that purpose; also city officers.

Question 37. By authority of State; and city of Chicago. Question 38. Yes. Question 39. Annual report shows for 1883, \$201,252,772. Question 40. For 1883, 1,878,944 cattle, 30,223 calves, 5,640,625 hogs, 749,917 sheep, 15,255 horses.

Question 41. For 1883, 247 pounds. Question 42. For 1883, \$84,609,375.

Question 43. Police officers are stationed at all the gates of the yards during business hours, at all times while the gates are open, and prevent any person taking dead animals from the yards, and compel all such animals to be taken to the said rendering company's platform, when they are taken by cars to Globe. No dead animal is allowed to be taken to any other place. The police officers are appointed by the Union Stock-Yard and Transit Company, and act in conjunction with the State agent, who is appointed by the governor of the State, and with the health officers who are appointed by the city of Chicago and the officers appointed by the Illinois Humane Society.

G. TITUS WILLIAMS. Superintendent of Union Stock-Yards and Transit Company.

Reply of John G. Shortall, president of the Illinois Humane Society.

CHICAGO, January 25, 1884.

DEAR SIR: Herewith please find the answer of this society's officer, Mitchell, in reply to your inquiries.

I have traversed the subject with him, and have the fullest confidence in his reliability and judgment. Very truly, yours,

JOHN G. SHORTALL, President Illinois Humane Society.

E. W. Blatchford, Esq., Of the American Pork Commission of Department of Agriculture of the United States; George B. Loring, esq., Chairman.

Replies of William Mitchell, agent of the Illinois Humane Society.

1 and 2. There is no examination made of any hogs that are shipped into the Union Stock Yards before they are unloaded from the cars.

3. The different railway companies consider their delivery perfect as soon as

their cars stop at the platform in the yards.

4. There are special instructions given to the men who unload the cars by John B. Sherman, the vice-president and general manager of the yards. They must not use any clubs or poles with spikes in them upon the cattle, and any person that I find using them I immediately place under arrest and bring them before the police justice, and charge them with the violation of our State laws covering cruelty to animals, a copy of which will be found below, and which I am specially detailed at the yards to enforce by the Illinois Humane Society.

Extracts from laws of the State of Illinois concerning cruelty to animals, Criminal code, chapter 38, section 50.

Whoever shall be guilty of cruelty to any animal in any of the ways mentioned

in this section, shall be fined not less than \$3, nor more than \$200, viz:

First. By overloading, overdriving, overworking, cruelly beating, torturing, tormenting, mutilating, or cruelly killing any animal, or causing or knowingly allowing the same to be done.

Second. By cruelly working any old, maimed, infirm, sick, or disabled animal,

or causing or knowingly allowing the same to be done.

Third. By unnecessarily failing to provide any animal in his charge or custody, as owner or otherwise, with proper food, drink, and shelter.

Fourth. By abandoning any old, maimed, infirm, sick, or disabled animal.

Fifth. By carrying or driving, or causing to be carried or driven or kept, any animal in an unnecessarily cruel manner. sec. 11. See "Animals," ch. 8, §§ 33–36.) (L. 1869, p. 115, §§ 1, 2, 3, 4; p. 116,

SEC, 51. By railroads and carriers. No railroad company or other common carrier in the carrying or transportation of any cattle, sheep, swine, or other animals shall allow the same to be confined in any car more than twenty-eight consecutive hours (including the time they shall have been upon another road), without unloading or rest, water and feeding for at least five consecutive hours, unless delayed by storm or accident, when they shall be so fed and watered as soon after the expiration of such time as may reasonably be done. When so unloaded they shall be properly fed, watered, and sheltered during such rest by the owner, consignee, or person in custody thereof, and, in case of their default, then by the railroad company transporting them, at the expense of said owner, consignee, or person in custody of the same, and such person shall have a lien upon the animals until the same is paid.

A violation of this section shall subject the offender to a fine of not less than \$3

[L. 1869, p. 115, \$\\$5, 6; p. 116, \\$7. nor more than \$200.

5. All hogs that arrive at the yards that are not dead are carted off to the different slaughterhouses, inside and outside of the yards, and killed. The duty of the city health officer is to examine the meat, and, if found unsound, to condemn the Condemned meat is rendered at establishments for that purpose.

6. They are sent to the Union Rendering Company's establishment.7. Sent to the same place.

Yes.

9. Union Rendering Establishment.

10. To be made into grease, fertilizers, etc.

11. Union Rendering Establishment, situated at Globe Station, Ill., 24 miles from the yards.

12. By rail, in box cars for the purpose.

13. They are immediately placed in covered pens, with plank floors.

14. As soon as practicable after arrival.

15. Good corn.

16. Two bushels to carload, a carload being from 45 to 70 hogs.

17. Hauled in a cart to the pens, and left on the floor for them.

18. Each pen in the yards is supplied with a water trough. There are pipes leading from the waterworks, supplied from two artesian wells (which are situated in the yards), to each trough, so that the water can be turned on or off at each pen without interfering with any other, and each trough is supplied with a hole in the bottom of it, and a plug, so that the dirty water can be allowed to run off and the trough filled with clean water. This water is pure and good.

19. When they come in, and afterwards when needed. 20. By pipes from the waterworks into their trough.

21. All they can use.

22. There are two officers—one the agent of the Illinois Humane Society and one agent appointed by the governor of the State-constantly in the yards, looking after the feeding and watering of stock. Any stock that comes in without some person in charge, these officers order feed for, and in case of the absence of the officers the stock yard company will feed them.

23. They are put into good, covered pens, with plank floors.

24. A small percentage; can not answer exactly.

25. From injuries received in transportation, and from different diseases not known to me.

26. Sent to the Union Rendering Establishment.

27. If I find hogs diseased in the pens I report the fact to the city health officer, stationed at the yards. My duties end there.

28. If the health officer condemns them, he sees that they are put into a tank and rendered into grease.

29. The landing platforms around the yards are built the same distance from the ground as the car doors, so that the hogs can walk from the cars to the platform, a little bridge being placed from each car door to the platform, so that the hogs' legs can not get in between the car and the platform. They are then driven into the vens.

30. There are two sizes of pens-1,500 surface feet, and 500.

31. Fenced all around, roofed, and boarded floor.

32. Yes.
33. Scraped and cleaned by men.
34. They are always kept reasonably clean, and there are thirty carts used daily for hauling the dirt from the pens. Each cart hauls 2 yards of dirt at a load, and each cart hauls 12 loads per day.

35. Washed out with water from the trough supply pipe,
36. There are three health officers in the yards who attend to the sanitary condition.

37. The board of health of Chicago. 38. There are three officers of the board of health detailed to look after diseased animals here, but I do not think the force large enough to detect all diseased hogs that arrive at the yards. It is true, further, that a large number of sows with young, "piggy sows," as they are called, are sold here for food. It is my opinion that where animals are in that condition some time should be determined upon after which their being used for food should be prohibited.

40.

41. 42.

For answers to these questions see the annual report of the Union Stock Yards

Company, which I send herewith.

No hogs of any description are allowed to be driven into or out of the yards without an order, so it is impossible for any hogs, whether sick or sound, to get into or out of the yards without being seen by some connected with the yards, for they are all counted. Orders have to be given (of which I inclose forms) to the officer stationed at the gates before they are allowed to pass in or out of the yards. If hogs come in diseased, if alive they are sold by the owners or consignees to whoever will buy them; if they die in the yards they go to the rendering establishment. No dead animals are allowed to be taken out of the yards for food.

WILLIAM MITCHELL Agent Illinois Humane Society, stationed at Union Stock Yards to Enforce the Laws Regarding Cruelty to Animals.

Replies of Oscar De Wolf, M. D., commissioner of health of the city of Chicago, and Matthew Lamb, meat inspector.

CHICAGO, February 4, 1884.

Mr. E. W. BLATCHFORD,

Of American Pork Commission.

DEAR SIR: Your circular letter of the 21st ult. only came to my hand yesterday

on my return from the East.

In reply I have the honor to inform you that I was appointed commissioner of health in February, 1877, and have been in sole charge of the department since that date; that it is made by law my duty to supervise the meat supply of the city, and that I might properly perform this duty it became necessary to extend the supervision to an examination of live stock arriving at the stock yards. For this purpose there are three officers of this department on duty at the yards—all of them experienced judges of stock—who are directed to vigorously cull out and condemn all stock which, from any cause, is unfit for food.

The stock-yard authorities and large packers doing business at the yards have always honorably and actively cooperated with this department in this work. They have placed pens and yards at our disposal, over which the health officers have absolute control and into which the authorities place all animals condemned by the officers, such animals being slaughtered by the officers and turned over to the Union Rendering Company, as explained by officer Lamb. Whenever the force of officers on duty at the yards has been inadequate for the work, I am permitted to employ more men of my own selection, for which service the packers and stock-yard authorities cheerfully pay.

The statute under which we are authorized to act in this direction is section 7,

chapter 38, "Revised Statutes of Illinois," 1874, as follows:
"Wheever * * * shall sell or offer to sell or keep for

* * shall sell or offer to sell or keep for sale any flesh of any or other * * * unwholesome provision shall be confined in "Whoever diseased animal, or other

the county jail not exceeding one year, or be fined not exceeding \$1,000, or both, in the discretion of the court;" and also section 1399 of the revised code of the city

of Chicago, as follows:

1:38). That no cattle shall be killed for human food while in an overheated, feverish or diseased condition; and all such diseased cattle in the city of Chicago, and the place where found and their disease, shall be at once reported to the commissioner of health by the owner or custodian thereof, that the proper order may be made relative thereto.

Respectfully yours,

OSCAR C. DE WOLF. M. D., Commissioner of Health,

By ordinance the word "cattle" includes all animals used for food, OSCAR C. DE WOLF.

Commissioner of Health.

Replies of Matthew Lamb, meat inspector, Chicago.

1. Is any examination made before unloading from cars to detect diseased or injured hogs?

No.

2. If so, what regulations govern such examinations?

None.

3. When does "delivery" by railroad company take place?

Immediately after arrival at stock yards.

4. Are any special instructions given in regard to care in unloading?

There are strict orders from the superintendent of the stock yards company as to care; also, not to use any poles with spears. Should any employee disobey those orders he is forthwith discharged.

5. What is done with hogs found to be sick, diseased, bruised, or crippled? Those that are unfit for human food are condemned by health officer and consigned to rendering tanks.

6. What is done with hogs found smothered?

They are used for grease.

7. What is done with hogs dead from disease?

They are also used for grease.

8. Are they sold?

Yes.

9. To whom?

The Union Rendering Company.

10. For what purpose? For rendering purposes. 11. Where are they sent?

They are sent to the Union Rendering Company's establishment at Globe Station, Ill., 24 miles from Chicago.

12. How are they transported? By railroad, in tight boxed cars.

13. What is done with healthy hogs on their arrival?

They are put in covered pens; said pens have a floor composed of planks.

14. When are they fed? Generally on arrival.

15. What kind of food is given them?

Corn of the best quality, which is inspected by a corn inspector.

16. What quantity?

As much as they can consume. It is a gain to feed them, as all hogs are sold by weight.

17. How is it furnished to them? It is fed to them in the pens.

18. Are they watered?

They are; also the water is good, healthy, and a large amount of it, as the yards have a big supply from five artesian wells.

19. When.

The water is turned on when the hogs enter the pen.

20. How is the water furnished to them?

There is a stand pipe in the pen; also a tight trough with a plug inserted in said trough so when the hogs are after drinking, the plug is withdrawn and fresh water again supplied, if needed.

21. What quantity? 22. In the absence of orders by owners or consignees of hogs, have you any regulations authorizing the feeding and watering of hogs.

Yes: there are two humane officers at the yards who attend to such things: one is a State officer, the other is an officer of the Chicago Humane Society; also the stock yards company attend to such matters.

23. How are the hogs cared for in bad weather?

They are well cared for.

24. How many hogs die in the yards?

A very small percentage. 25. From what cause?

From overloading in some cases, and a few from disease, also some piggy sows. which in my opinion should not be shipped to market.

26. What is done with them?

They go to the Union Rendering Company's tanks, for grease purposes.

27. What is done with the diseased hogs if discovered in the pens?

When killed they are inspected by me, the health officer, and if unfit for human food they are condemned and put into rendering tanks for grease and fertilizing purposes.

28. How are these hogs disposed of?

Condemned and put in tanks for grease and fertilizing purposes.

29. How arranged to receive hogs from cars? The arrangements are perfect in all divisions.

30. What is the size of the pens?

The pens vary in size from 500 square feet to 2,000 square feet. The first size will contain one carload and the latter size four carloads.

31. How are they protected?

They are roofed over and well protected.

32. Are they drained?

They are well and thoroughly drained.

33. How can they be cleaned?

By a two-horse cart being driven into them and the refuse matter loaded into said cart and it taken therefrom.

34. What are the regulations in regard to keeping the pens clean?

To be cleaned when needed.

35. What measures are adopted to disinfect pens where diseased hogs have been?

Thoroughly washed out with water.

36. Is there any inspection made of the sanitary condition of the yards or the condition and care of the hogs?

There are three sanitary policemen assigned to do duty at said yards.

37. If so, under what authority?

Those officers belong to the Chicago health department.

38. Is such inspection sufficient and effective to secure the sanitary condition of the premises and prevent any hogs, diseased or in improper condition, going into food?

It is.

39. Please state what system of supervision is adopted to prevent any diseased hogs going into food, and under what authority such supervision is exercised,

whether municipal. State, or the national or local humane society.

I am stationed at the Union Stock Yards from 7 a. m. until 6 p. m. each day, to see that no diseased, crippled, emaciated, or bruised animal is used for human food; to condemn and confiscate forthwith such animal or animals, and have them consigned to the rendering tanks. I am under the supervision of Oscar C, De Wolf, M. D., commissioner of health of Chicago, Ill.

MATTHEW LAMB,

Meat Inspector at Union Stock Yards, Chicago, Ill.

JANUARY 21, 1884.

(See blank form of order of health officer herewith.)

HEALTH DEPARTMENT, CITY HALL, Chicago, January 21, 1881.

Matthew Lamb, sanitary inspector, is authorized to condemn and remove -. No. - street, as being detrimental to health and unfit for human at food.

PENALTY FOR THE SELLING OF UNSOUND MEATS, ETC.

For the further maintenance of the public health it is ordered that, if any person shall, on and after June 10, 1868, sell, or expose for sale, in any market house or elsewhere in said city any emaciated, tainted or putrid meat or provisions, which for these or other causes may be deemed unwholesome, such person shall,

on conviction, be fined not less than five nor more than five hundred dollars for each and every offense; and it shall be the duty of the sanitary superintendent or health officer to forthwith seize and confiscate all such meat or provisions.

By order of the commissioner of health.

OSCAR C. DE WOLF, Health Officer.

THE HOG IN THE HANDS OF THE PACKERS; THE MODE OF PURCHASE, SLAUGHTER-ING, AND CURING.

The following questions were addressed to all the principal packers of the country, either personally or by mail, and the replies were made accordingly.

Questions submitted to packers.

1. Where and how are the hogs purchased?

2. How do you buy your hogs?

3. In selecting hogs do you reject the following, viz:

4. Diseased?

5. Bruised or abused hogs?

6. Ruptured?

7. Still-fed? 8. Piggy sows? 9. Stags?

10. Crippled hogs?

11. Are hogs usually rejected for these reasons?

12. Is it customary to buy hogs from the general appearance, weight, and evenness of a lot?

13. What is done with rejected hogs!

14. How long are the hogs kept in your pens before slaughtering?

15. Why are they kept this length of time?
16. How do you care for them in your pens?

17. How are these pens constructed?
18. Do any die in the pens?
19. If so, how many and from what cause?
20. What is done with the dead hogs?

21. How are the hogs prepared for slaughtering?

22. How are hogs taken from the pens to the slaughtering room? 23. If hogs are unable to be driven to the slaughtering room, what is done with them?

24. What mode of slaughter do you adopt? 25. What time is allowed the hog to bleed?

26. Is an examination made whether life is extinct before scalding?

Treatment of carcass of hog after slaughter.

27. What is the next process with the carcass?

28. What time is allowed the carcass to cool before cutting up?

29. Is the carcass thoroughly cooled before going to the cutting bench?

30. Is this rule strictly carried out?

31. Why is the thorough cooling of the carcass important before cutting up and commencing to cure?

32. Is there any inspection made to ascertain that it is thoroughly cooled?

33. What is the rule for cutting?

34. Is inspection of meat had at time of cutting up, and for what? 35. Is such inspection sufficiently thorough to detect disease or bruises?
36. After cutting up the carcass, how are the parts treated to effect a cure?
37. How are they piled to secure thorough curing?
38. What is the temperature of the room?

39. What time is required for curing?

40. Is meat ever shipped before being cured?

41. Is it desirable to effect a cure in as short time as possible?

42. Is not the curing of the meat often forced for purpose of making it salable and deliverable in as short time as possible?

43. Do you ascertain by inspection the soundness of your cured meat?

- 44. To what causes do you attribute unsound or "sour" meat?
 45. Do you attribute it to diseased carcass?
- 46. Do you attribute it to a faulty treatment? 47. What quality of "sour" meat do you have?

48. What is done with it?

49. What, if any changes in modes of curing are adopted for meats destine I to markets in different climates?

50. Can as reliable results of curing be had in summer as in winter?

51. What kind or kinds of salt are used:
52. Why do you give this kind or kinds preference?
53. How is meat packed for shipment?
54. How is meat packed for shipment?

54. What is the quality of the packages used?

55. What is the size of packages?

56. What weight of meat is put in each box?

57. Is any salt put in?

58. How much to each box of meat?

59. What is the rule?

60. Is this rule strictly adhered to?

61. Is not less salt used than the rule calls for to save expense?

What is the character of the salt used? 63. Is any care taken that the salt be clean? 64. What is your rule for cutting mess pork?

65. How many pieces in each barrel?

66. What is the weight of meat in each barrel?

67. What kind of salt is used? 68. What quantity of salt is used? 69. How is the quality tested? 70. Where is mess pork stored?

71. What are the regulations regarding its storage? What is the temperature of the warehouse?

72. 73. What examinations are made as to its conditions from time to time?

74. What number of hogs do you kill annually?

75. What is their average weight?

76. What parts of the hog do you use for lard?

77. What do you include as offal? 78. What is done with the head? 79. What is done with the feet? 80. What is done with the entrails?

81. What is done with the heart? What is done with the liver and lights? 82.

83. What is done with the blood?

84. What is done with the refuse from tanks? 85. Is all meat inspected before being shipped?

86. By whom?

87. Under what authority?

88. Is meat ever packed and shipped without being inspected?

89. Under what circumstances?

90. Do you ever guarantee inspection?

91. If so, under what circumstances and to what extent?
92. What course does the inspector take in examining meat?

93. Does he examine each piece? 94. What tests are made?

95. For fully or properly cured?

96. For stags?

97. For piggy sows? 98. For "sour" meat? 99. For bruised meat?

100. For what causes is meat rejected?

101. What is done with meat rejected by the inspectors?

PURCHASE OF HOGS.

Those packing companies which do business in the large cities purchase their hogs in the stock yards from the shippers, owners, or consignees. Packers in the smaller cities of the country buy directly from the farmers. In all cases the buying is done by experts, who are selected because of their ability to judge of the condition and health of the hogs. Barrows and spayed sows are preferred; "stags" and "piggy" sows are rejected by some, by others they are bought at a reduction of 60 to 80 pounds on the former and 40 pounds on the latter, and cured for domestic markets. Diseased, bruised, crippled, and ruptured hogs, with very few exceptions, are rejected. Still-fed hogs (distillery swill) are also generally rejected, the meat being too soft and oily.

DISPOSITION OF REJECTED HOGS.

The rejected hogs are generally tanked for grease, but "stags" and "piggy" sows often go into consumption as second-quality pork. Bruised and crippled hogs which do not seem feverish are also at times cured after slaughter, provided the meat passes inspection as fit for food, but the injured parts are always rejected. As a rule the larger establishments refuse crippled and bruised hogs, and these find their way, when not tanked, into the hands of the city butchers, and, unless condemned by the health officers, are sold for local consumption.

HOGS IN THE PACKERS' PENS.

All the packers hold the hogs alive for from twelve to forty-eight hours before killing in order that the excitement of the journey may be allayed, and that they may have time to rest and cool. If killed sooner than this the animals are more or less feverish and overheated, and the meat can not be cured without danger of a large proportion becoming "sour," particularly about the joints of the hams and shoulders. During this time the animals are kept in covered and floored pens, with good water constantly before them, as this greatly assists the "cooling," and they are fed with corn until within twenty-four hours of the time of slaughter. Very few hogs die in the packers' pens, and these mostly from crowding and smothering each other, but the proportion is extremely small, varying from 1 in 5,000 to 1 in 1,000 handled. Such dead hogs go to the tanks for grease.

SLAUGHTERING.

The animals to be slaughtered are driven from the pens up an inclined way to one of the upper floors of the packing house. Those fit to be killed and too fat or from other cause unable to walk are hoisted up to the slaughter pen. In most of the larger houses the anima's are then lifted up by the hind legs, and killed by sticking with the head hanging down. A considerable number of companies, however, knock the hog on the head before sticking or hoisting, as they think better meat is made from hogs killed in this way, the struggles of the animal after being stuck by the other method being supposed at times to cause injuries to the joints. In any case they are allowed to hang and bleed from three to ten minutes, or until dead, when they are dropped into the scalding vat. then scraped, and the entrails removed, when, after washing, they go to the cooling room.

COOLING AND CUTTING.

The carcasses are allowed to hang in the cooling room from twenty-four to forty-eight hours before cutting, and hams and shoulders are frequently cooled twelve to twenty-four hours longer before salting. The necessity of thorough cooling is well understood by all packers, and they are extremely particular in regard to this part of the process. Some test the meat with a thermometer, others rely upon hourly tests of the temperature of the room, but all agree that the cooling must be thorough or the meat can not be cured without "souring:" a careful inspection is generally made before cutting to determine if this has been carried to The cutting and trimming differs somewhat according to the the proper point. directions of the boards of trade in their respective cities and the market for which the meat is intended.

The rules established by the Board of Trade of the City of Chicago, State of

Illinois, September 1, 1883, are here inserted:

REQUIREMENTS AS TO CUT AND PACKING OF HOG PRODUCTS.

BARRELED PORK.

Mess pork.

Standard mess pork should be made from sides of well fatted hogs, split through or on one side of the back-bone, and equal proportions on both sides, cut into strips

of reasonably uniform width, properly flanked and not backstrapped.

One hundred and ninety (190) pounds of green meat, and between March 1 and November 1 two hundred (200) pounds, numbering not over sixteen (16) pieces, including the regular proportion of flank and shoulder cuts, placed four layers on edge, without excessive crowding or bruising, shall be packed in each barrel, with not less than thirty (30) pounds of coarse salt, and barrel filled with brine of full

strength, or thirty (30) pounds of coarse salt, and in addition thereto fifteen (15) pounds of salt, and barrel filled with cold water.

Prime mess pork.

Prime mess pork should be made from the shoulders and sides of hogs weighing from one hundred (100) to one hundred and seventy-five (175) pounds net, to be cut as near as practicable into square pieces of four (4) pounds each, the shank of

the shoulder to be cut off close to the breast.

One hundred and ninety (190) pounds of green meat, in the proportion of twenty (20) pieces of shoulder cuts to thirty (30) pieces of side cuts, shall be properly packed in each barrel, with not less than twenty (20) pounds of coarse salt and barrel filled with brine of full strength, or twenty (20) pounds of coarse salt, and in addition thereto fifteen (15) pounds of salt and barrel filled with water. There shall also be put into each barrel twelve (12) ounces of saltpeter.

Extra prime pork.

Extra prime pork should be made from heavy, untrimmed shoulders, cut into three (3) pieces, the leg to be cut off close to the breast, and in all other respects to be cut, selected, and packed as mess pork.

Light mess pork.

Light mess pork should be made from sides of reasonably well-fatted hogs, and in all other respects to be cut, selected, and packed same as mess pork, except that as many as twenty-two (22) pieces may be put into each barrel.

Back pork.

Back pork should be made from backs of hogs after bellies have been taken off, cut into pieces of about six (6) pounds each, and in all other respects to be cut, selected, and packed in the same manner as mess pork.

Extra shoulder pork.

Extra shoulder pork should be made from heavy trimmed shoulders, cut into three (3) pieces, the leg to be cut off close to the breast, and in all other respects to be cut, selected, and packed in the same manner as mess pork.

Extra clear pork.

Extra clear pork should be made from the sides of extra heavy, well-fatted hogs, the backbone and ribs to be taken out, the number of pieces in each harrel not to exceed fourteen (14), and in all other respects to be cut, selected, and packed in the same manner as mess pork.

Clear pork.

Clear pork should be made from the sides of extra heavy, well-fatted hogs, the backbone and half the rib next the backbone to be taken out, the number of pieces in each barrel not to exceed fourteen (14), and in all other respects to be cut, selected, and packed in the same manner as mess pork.

Clear back pork.

Clear back pork should be made from the backs of heavy, well-fatted hogs after bellies have been taken off and backbone and ribs taken out, cut into pieces of about six (6) pounds each, and in all other respects to be packed in the same manner as mess pork.

Rumps.

Rumps should be trimmed with only enough taken off to make them neat and smooth, the tails to be cut off close, and in all other respects to be cut, selected, and packed in the same manner as mess pork.

PICKLED MEATS.

Standard sweet-pickled hams.

Standard sweet-pickled hams should be cut short and well rounded at the butt, properly faced, shank cut in or above the hock joint; to be reasonably uniform in

size, and to average, in lots, not to exceed sixteen (16) pounds. Three hundred (300) pounds, block weight, shall be packed in each tierce, with either twenty-four (24) pounds of salt, three (3) quarts of good sirup, twelve (12) ounces of saltpeter, and tierces filled with water; or tierce filled with sweet pickle, made according to above standard.

Standard sweet-pickled shoulders.

Standard sweet-pickled shoulders should be well cut and trimmed, reasonably uniform in size, and to average, in lots, not to exceed sixteen (16) pounds. Three hundred (300) pounds, block weight, shall be packed in each tierce. Pickle the same as used for hams.

New York shoulders.

New York shoulders should be made from small, smooth hogs, shank cut off 1 inch above knee joint, trimmed close and smooth, reasonably uniform in size, and to average, in lots, not to exceed fourteen (14) pounds. Three hundred (300) pounds, block weight, shall be packed in each tierce. Pickle the same as used for hams.

Sweet-pickled bellies.

Sweet-pickled bellies should be made from nice, smooth hogs, well cut and trimmed, to average, in lots, not to exceed fourteen (14) pounds. Three hundred (300) pounds, block weight, shall be packed in each tierce. Pickle the same as used for hams.

Branding.

The packer's name, location, number of pieces, and date of packing shall be branded on the head of each package of pickled meats at the time of packing.

Uniformity of pickled meats.

All pickled meats should be sized when packed, the light, medium, and heavy separately, as nearly as practicable.

CUT MEATS.

Hams,

Hams should be cut short, well rounded at the butt, properly faced, cut in or above the hock joint.

Shoulders.

Shoulders should be cut as close as possible to the back part of the forearm joint. butted off square on top; neck bone and spareribs taken out, blood vein lifted and cut out, breast flap to be trimmed off, and foot to be cut off in or above the kneejoint.

Bladed shoulders.

Bladed shoulders should be cut the same as standard shoulders, excepting the shoulder blade to be taken out and the corners rounded.

Rough sides.

Rough sides should be made by slitting the hog through or on one side of the backbone, and an equal proportion of both sides must be delivered on sales to make them standard.

Short clear sides.

To make short clear sides the back-bone and ribs should be taken out, hench-bone or breast-bone sawed or cut down smooth and even with the face of the side; feather or blade bone not to be taken out, and sides not to be backstrapped or flanked.

Short-rib sides.

To make short-rib sides, the back-bone should be taken out, hench-bone and breast-bone sawed or cut down smooth and even with the face of the side; feather of blade-bone not to be taken out, and sides not to be backstrapped or flanked.

Long clear sides.

To make long clear sides, the back-bone, shoulder-bones, and ribs must be taken out, leg cut off close to the brisket, hench-bone and breast-bone sawed or cut down smooth and even with the face of the side, and sides not to be backstrapped or flanked.

Cumberland sides.

To make Cumberland sides, the side and shoulder should be left together in one piece, leg cut off below the knee-joint; shoulder-ribs, neck-bone, and back-bone taken out; blood-vein lifted and cut out; hench-bone and breast-bone sawed or cut down smooth and even with the face of the side, and sides not to be backstrapped or flanked.

Long-rib sides.

Long-rib sides should be made same as Cumberlands, except that the shoulder-bones must be taken out and leg cut off close to the brisket.

Stretford sides.

Stretford sides should be made from hogs weighing about 140 to 160 pounds net; back-bone and half of the ribs taken out, blade-bone taken out, knuckle left in, and leg cut off close to the breast.

Birmingham sides.

Birmingham sides should be made from hogs weighing about 170 pounds net; back-bone, ribs, and blade-bone taken out, pocket-piece cut out and pocket nicely rounded, knuckle-bone left in, and leg cut off close to the breast.

South Staffordshire sides.

South Staffordshire sides should be made the same as Birmingham, except loin taken out full to top of shoulder-blade, leaving only a thin strip of lean along the back; knuckle left in, and leg cut off close to the breast.

Yorkshire sides.

Yorkshire sides should be made the same as Cumberlands, with ribs out and leg cut off about two inches above the knee.

Irish cut sides.

Irish cut sides should be made the same as long clear, except top of the pocket cut off, knuckle-bone left in.

Long hams.

Long hams should be cut from the side by separating with a knife the hip-bone from the rump, properly rounded out, foot unjointed at first joint below the hock-joint.

South Staffordshire hams.

South Staffordshire hams should be cut short, hip-bone taken out at socket-joint, hock unjointed at first joint below the hock-joint.

Uniformity of boxed meats.

In packing meats in boxes the pieces should be classified, the light, medium, and heavy separately, as nearly as practicable, in packages made to suit the different sizes.

LARD.

Choice lard.

Choice lard to be made from leaf and trimmings only, either steam or kettle rendered, the manner of rendering to be branded on each tierce.

S. Doc. 231, pt 4—50

Prime steam lard.

Prime steam lard shall be standard when made from the head, gut, leaf, and trimmings, in the proportion in which the same came from the hog, but shall not include any material which has been salted.

The rules established by the Chamber of Commerce of Cincinnati, Ohio, are here inserted:

RULES FOR THE CUT AND MANUFACTURE OF THE HOG PRODUCT.

BARRELED PORK.

Mess pork.

Mess pork shall be cut and packed from sides of well-fatted hogs, in strips: the hog to be first split through the i ackbone, or, if split on one side, then an equal proportion of hard and soft sides, as they are termed, must be packed, properly flanked, and not backstrapped. One hundred and ninety pounds of green meat, numbering not over sixteen pieces, including the regular proportion of flank and shoulder cuts, four layers placed on edge without excessive crowding or bruising, must be packed into each barrel, with not less than thirty-five pounds of good foreign, or forty pounds of good domestic, coarse salt, and filled up with good clear brine, as strong as salt will make it. The pork to be cut reasonably uniform in width. The packer's name and location, the date of packing, and the number of pieces and pounds of green meat in each barrel must be branded on the head with a metallic brand, marking iron, or stencil brand, at the time of packing.

Prime mess pork.

Prime mess pork shall be made of the shoulders and sides of nice, smooth, fat hogs, weighing from 100 to 160 pounds, net, regularly cut into square pieces, as near four pounds each as possible, the shank to be cut off close to the breast; each barrel to contain one hundred and ninety pounds of green meat, in the proportion of twenty pieces of shoulder and thirty pieces of side cuts, and to be packed with twenty pounds of good, coarse salt, with the addition of eight ounces of saltpeter. The prime pieces should be cut clear of the blade-bone; the shoulder-pieces not to exceed eighty-five pounds in each barrel.

Extra prime pork.

Extra prime pork shall be made from heavy, untrimmed shoulders, cut into three pieces, the leg to be cut off close to the breast, to be packed one hundred and ninety pounds of green meat into each barrel, with the same quantity and quality of salt as mess pork.

Light mess pork.

Light mess pork shall be made from the sides of reasonably well-fatted hogs, and in all other respects to be cut, selected, and packed the same as mess pork except that as many as twenty-two pieces may be put into each barrel.

Family mess pork.

Family mess pork shall be made from backs of hogs, after bellies have been taken off, cut into pieces about six pounds each, and in all other respects to be selected and packed in the same manner as mess pork.

Extra shoulder pork.

Extra shoulder pork shall be made from heavy, trimmed shoulders, cut into three pieces, the leg to be cut off close to the breast, and in all other respects selected and packed in the same manner as extra prime pork.

Extra clear pork.

Extra clear pork shall be made from the sides of extra heavy, well-fatted hogs, the backbone and ribs to be taken out, the number of pieces in each barrel not to exceed fourteen, and in all other respects to be cut, selected, and packed in the same manner as mess pork.

Clear pork.

Clear pork shall be made from the sides of extra heavy, well-fatted hogs, the backbone and half the rib next to the backbone to be taken out, the number of pieces in each barrel not to exceed fourteen, and in all other respects to be cut, selected, and packed in the same manner as mess pork.

Clear family mess pork.

Clear family mess pork shall be made from the backs of heavy, well-fatted hogs, after bellies have been taken off and backbone and ribs taken out, cut into pieces of about six pounds each, and in all other respects to be packed in the same manner as mess pork.

Rumps.

Rumps shall be trimmed with only enough taken off to make them neat and smooth, the tails cut off close, each barrel to contain one hundred and ninety pounds of green meat, packed in the same quantity and quality of salt as mess pork, and the number of pieces to be similarly branded on each barrel at the time of packing.

PICKLED MEATS.

Standard sweet-pickled hams.

Standard sweet-pickled hams shall be cut short and well rounded at the butt, properly faced, shank cut just in or above the hock joint, to be reasonably uniform in size and average. Three hundred pounds, block weight, shall be placed in each tierce.

Standard sweet-pickled shoulders.

Standard sweet-pickled shoulders shall be well cut and trimmed; shank cut in or above the kneejoint, to be reasonably uniform in size. Three hundred pounds, block weight, shall be packed in each tierce.

New York shoulders.

New York shoulders shall be made from small, smooth hogs, shank cut off one inch above kneejoint, trimmed close and smooth, reasonably uniform in size, and to average, in lots, not to exceed fourteen pounds. Three hundred pounds, block weight, shall be packed in each tierce.

Sweet-pickled bellies.

Sweet-pickled bellies shall be made from nice, smooth hogs, well cut and trimmed, to average, in lots, not to exceed fourteen pounds. Three hundred pounds, block weight, shall be packed in each tierce.

Branding.

The packer's name, location, number of pieces, and date of packing shall be branded on the head of each package of pickled meats at the time of packing.

Uniformity of pickled meats.

All pickled meats shall be sized when packed, the light, medium, and heavy separately, as near as practicable.

CUT MEATS.

Hams.

Hams shall be cut short, well rounded at the butt, properly faced, cut just in or above the hock joint.

Shoulders.

Shoulders shall be cut at right angles to the side, and as close as possible to the back part of the forearm joint, butted off square on top, neck bone and short ribs taken out, blood vein lifted and cut out, breast flap to be trimmed off, and foot to be cut off in or above the knee-joint.

Bladed shoulders.

Bladed shoulders shall be cut the same as "standard" shoulders, excepting the shoulder blade to be taken out and the corners rounded.

Rough sides.

Rough sides shall be made by splitting the hog through one side of the backbone, and an equal proportion of both sides must be delivered on sales, to make them "standard."

Short clear sides.

To make short clear sides the backbone, breastbone, and ribs shall be taken out, and hench bone sawed down smooth and even with the face of the side, feather of blade bone not to be taken out, edges to be left smooth, sides not to be back strapped or flanked.

Short-rib sides. .

To make short-rib sides the backbone should be taken out, hench bone and breastbone sawed or cut down smooth and even with the face of the side, feather of blade bone not to be taken out, and side not to be back strapped or flanked.

Long clear sides.

To make long clear sides the backbone, shoulder bones, ribs, and breastbone must be taken out, leg cut off close to the brisket, hench bone sawed down smooth and even with the face of the side, and the sides not to be back strapped or flanked.

Cumberland sides.

To make Cumberland sides the side and shoulder should be left together in one piece: foot cut off in or above kneejoint; shoulder ribs, neck bone, and backbone taken out: blood vein lifted and cut out; hench bone and breastbone sawed or cut down smooth and even with the face of the side, and sides not to be back strapped or flanked. Ribs must not be scribed.

Long-rib sides.

Long-rib sides to be made same as Cumberlands, except that the shoulder bones must be taken out and leg cut off close to the brisket.

Stretford sides.

Stretford sides shall be made from hogs weighing about 140 to 160 pounds, net; backbone and half the ribs taken out, blade bone taken out, knuckle left in, and leg cut off close to the breast.

Birmingham sides.

Birmingham sides shall be made from hogs weighing about 170 pounds, net; backbone, ribs, and blade bone taken out, pocket piece cut out, and pocket nicely rounded, knuckle bone left in, and leg cut off close to the breast.

South Staffordshire sides.

South Staffordshire sides shall be made the same as Birmingham, except loin taken out full to top of shoulder blade, leaving only a thin strip of lean along the back; knuckle left in and leg cut off close to the breast.

Yorkshire sides.

Yorkshire sides shall be made the same as Cumberlands, with the ribs out, the leg cut off about two inches above the knee.

Irish cut sides.

Irish cut sides shall be made the same as long clear, except top of the pocket cut off, knuckle bone left in.

Long hams.

Long hams shall be cut from the side by separating with a knife the hip bone from the rump, properly rounded out, foot unjointed at first joint below the hock joint.

South Staffordshire hams.

South Staffordshire hams shall be cut short, hip bone taken out at the socket joint, hock unjointed at first joint below the hock joint.

Uniformity of boxed meats.

In packing meats in boxes, the pieces shall be classified—the light, medium, and heavy separately, as nearly as practicable, in packages made to suit the different sizes.

LARD. .

Choice lard.

Choice lard to be made from leaf and trimmings only, either by steam or kettle rendered, the manner of rendering to be branded on each tierce.

Prime steam lard.

Prime steam lard shall be standard, made from head, gut fat, leaf and trimmings, in the proportion in which the same come from the hog.

Current make lard.1

Current make lard shall be standard, made from head, gut fat, leaf, and trimmings in the proportion in which the same come from the hog; white and sweet; steam rendered.

Rules for the regulation of the trade in cooperage.

Rule 1. The board of officers (directors) shall annually appoint a competent inspector of cooperage, who shall inspect all such cooperage as he may be called upon to examine according to these rules, determining with a wind bellows the tightness of packages to hold liquids, lard, or pickled meats.

Rule 2. The certificate of such inspector shall be binding in the settlement of any differences as to quality that may arise between the buyer and seller, but, in the event of either party feeling disatisfied with such inspection, an appeal may be made to the committee on provisions or whisky inspection, as the article inspected may properly belong to one or the other, and the decision of such committee shall be final.

Rule 3. The fees to be allowed the inspector shall be as follows:

For seventy-five (75) or a less number of barrels, half barrels, kegs, or

For lots exceeding seventy-five (75) packages of the same, per package 1½ cents. For hogsheads, half hogsheads, or boxes, per package 3 cents. Rule 4. The fees shall in all cases be paid by the party employing the inspector.

Packages.

Cooperage shall be made of well-seasoned white oak, free from objectionable sap.

Pork barrels.

For pork barrels, staves shall be five-eighths $(\frac{5}{8})$ of an inch thick, thirty (30) inches long; heads made in an eighteen (18) inch tress, one (1) inch thick in center and three-eighths $(\frac{5}{8})$ of an inch at bevel; hoops of hickory, not more than ten on an end; barrel to be hooped not less than eleven-sixteenths $(\frac{11}{16})$.

Tierces.

Tierces for hams, shoulders, or lard shall be thirty-two (32) to thirty-three (33) inches long, heads made in twenty-one (21) inch tress hoops and same thickness

as for barrels; staves may or may not be chamfered at the head, as may be agreed upon by the buyer and seller; shall be three-quarters (\frac{1}{4}) of an inch. quality of staves and hoops to be same as for barrels. Tierces to be hooped eleven-sixteenths, and to have not more than ten hoops to an end. Iron-bound tierces, for pickled hams and shoulders, shall be classed as "Standard" if made in compliance with the requirements of this rule as to heading and staves, and hooped with not less than three (3) good hoops on each end; the chime hoops to be 1\frac{3}{4} inches in width, the quarter and bilge hoops to be 1\frac{1}{4} inches in width, and to weigh, per set, not less than ten (10) pounds to the tierce.

Lard kegs.

Lard kegs shall be made of same quality of timber as pork barrels and lard tierces; staves to be $16\frac{1}{2}$ inches long and $\frac{4}{3}$ of one inch thick, to be made in $11\frac{1}{2}$ -inch tress hoops; hoops to be hickory, and the packages to be fully two-thirds hooped.

Half barrels.

Half barrels for pork, beef, and lard shall be made of same quality of timber as barrels and lard tierces; staves to be 24 inches long and \$\frac{1}{2}\$ to \$\frac{1}{2}\$ of an inch thick, and the packages to be made in 15-inch tress hoops; all hoops to be hickory, and packages to be fully two-thirds hooped.

Beef tierces.

Beef tierces shall be made the same as lard tierces, but to be entirely free from sap, and the second hoop from each end to be 1½-inch iron, oiled or painted.

Slack ham tierces.

Slack ham tierces shall be made in 22-inch tress hoops; staves to be 33 inches long, good hickory hoops, 3 hoops at the end and 3 at the bilge.

Slack and fly-tight hogsheads.

Slack and fly-tight hogsheads shall be made in 32-inch tress hoops: good hickory hoops; staves to be 42 inches long. Slack hogsheads to be hooped with 12 hoops and quarter bound, middle headpiece to be pine or oak. Fly-tight hogsheads to be same as slack, but to be hooped with 16 hoops instead of 12.

Half hogsheads.

Half hogsheads shall be made in 28-inch tress hoops; staves to be 34 inches long; good hickory hoops; packages to be quarter bound (12) hoops; middle headpiece to be of pine or oak.

BOXES.

Boxes should be made of sound, common boards, reasonably dry, one (1) inch thick, dressed on one side, not over two (2) strips at each end, and three (3) strips to each side, bottom, or top; to have good, strong, hard wood, whitewood or sappine stays inside each corner; shall be well nailed, and strapped with birch, oaks, or hickory straps around each end, to lap three (3) inches on the cover. All boxes to contain five hundred (500) pounds, net, shall have three straps. Boxes shall be nailed together with tenpenny nails, and the stays nailed in with eightpenny nails.

INSPECTION OF CARCASS WHEN CUT.

At the time of cutting there is generally a rigid inspection by the superintendent of the cutting room of the packing companies, when all objectionable pieces—bruised and unmerchantable meat—is rejected and either sent to the rendering tanks or put by itself and classed as second quality. It is believed by the packers that this inspection is sufficiently thorough to detect any diseases or bruises that may have escaped notice before the hog was slaughtered, and it certainly would be more profitable to tank the meat at this stage, if such diseased or bruised meat were discovered, rather than attempt to carry it through the process of curing, to "sour" in the end, or be detected by subsequent inspections and injure the reputation of the company. The cut meats are either packed in barrels with salt and these filled with strong brine, or they are well rubbed with salt and piled with

layers of salt between. At first they are only piled 2 or 3 deep, each lot is dated, and they are rehandled as necessary and afterwards piled 4 or 5 deep, and finally the piles are made 6 to 10 layers high. The pressure must not be too great, or the curing is retarded. The temperature of the room is kept at 35° to 45° Fahrenheit. If too cold, the meat does not take salt well. The time for curing varies from twenty to ninety days, according to the kind of meat, the market for which it is put up, and the season of the year. Meats free from bone cure quicker than those containing bone; those for Southern markets require more curing than those for markets farther North, and less curing is necessary in winter than in summer.

Again, English and French consumers prefer meats with less salt than is used for home consumption or for shipment to the South or the West Indies, while cer-

tain brands of hams receive as little salt as possible.

SHIPPING WHEN PARTLY CURED.

Meat is frequently shipped before it is fully cured, but it is believed the age is correctly given by the seller. If thoroughly cooled before cutting, it can be shipped within ten days in winter. Barreled pork can be shipped freshly packed, and cures in transit. Meats are also shipped when partly cured in boxes with salt and also in bulk, packed in cars in the same way, and the curing goes on during transportation.

There are also said to be compounds for accomplishing the same object, but according to our information they are seldom, if ever, used. As a rule, it is not considered desirable to hasten the curing, and all meat put up to be transported

long distances is fully cured.

INSPECTION OF CURED MEATS.

A thorough inspection is always made of meats when they are taken from the curing floors for packing. Some packers make a double inspection at this time that is, it is inspected when it is taken from the curing floors and again when

The object of this inspection is to detect any pieces that may have become unsound or "sour" during the process of curing. All houses reject more or less meats at this time, the quantity rejected varying from 0.05 to 1 per cent of the

whole.

UNSOUND MEAT.

Unsound or "sour" meat is the result of various causes. If animals are slaughtered too soon after arrival in the yards; or if for any other cause they are feverish; or if the carcass is not sufficiently cooled before cutting; or if there is negligence in curing, or careless handling; or if there is an excess of moisture in the atmosphere, a portion of the meat becomes tainted or "sour." If very bad, this rejected meat is tanked, but otherwise it is sold on its merits, and is marketed in the South or in the West Indies, where it is said to bring nearly as much as sound meats.

SUMMER CURING.

Some establishments pack only in winter, but many others are operated the whole year. Where there are proper facilities the summer curing not only equals that done in winter, but it is believed by some to be even more reliable, as by the use of the "refrigerator rooms" the temperature can be better controlled.

SALT USED IN PACKING.

The salts most generally used in packing in the United States are the Syracuse solar salt, of which 2,000,000 bushels were manufactured last year; Michigan solar salt, of which 50,000 bushels were manufactured last year, and Turks Island salt.

For rubbing hams, either the ground solar salt or the Syracuse factory-filled

dairy salt is employed.
Some years ago the War Department of the United States Government caused some practical tests to be made by having meats packed with Turks Island and Syracuse solar salt. The meats were afterwards sent to the different ports on the seacoast, on the Gulf of Mexico, and in the interior.

The result of the experiment demonstrated the fact that the Syracuse solar salt is equali n every respect for packing purposes to the imported Turks Island sea salt, and since that time the United States Government has required that beef and pork packed for the Army and Navy shall be packed with Turks Island or

Syracuse solar salt.

American packers fully appreciate the importance of good salt, and are very careful in securing the best brands.

The following analyses of American and European salts show that the salts used in this country compare very favorably with those of Europe.

Analyses of salt used in the United States.

	Sodium chloride.	Calcium chloride.	Magnesium chloride.	Sodium sulphate.	
1. Turks Island sea sait 2. Syracuse, N. Y., solar salt 3. Saginaw, Mich., solar salt 4. Lincoln, Nebr., solar salt 5. Kansas solar salt 6. Hocking Valley, Ohio, solar salt 7. Petite Anse, La., rock salt 8. Syracuse, N. Y., "factory-filled dairy"	98, 130 93, 060	0.092 .356	0.140 .089 .140 .080 .240 .089 .003 .037	0. 640 . 390 . 350 . 028	
	Calcium sulphate.	Magnesium sulphate.	Insoluble matter.	Water.	
1. Turks Island sea salt 2. Syracuse, N. Y., solar salt 3. Saginaw, Mich., solar salt 4. Lincoln, Nebr., solar salt 5. Kansas solar salt 6. Hocking Valley, Ohio, solar salt 7. Petite Anse, La., rock salt 8. Syracuse, N. Y., "factory-filled dairy"	1.560 1.315 .316 .250 1.220	0.180		0.900 2.500 3.344 1.200 4.950 2.130 .330	

Analyses of European salt.

	Sodium chloride.	Magnesium chloride.	Sodium sulphate.	Potassium sulphate.
9. Lisbon, Portugal, first-crop sea salt 10. Lisbon, Portugal, second-crop sea salt 11. Aveirro, Portugal, first-crop sea salt 12. Aveirro, Portugal, second-crop sea salt 13. St. Felice sea salt 14. Velicka, Galicia, rock salt 15. Hall-Tyrol rock salt 16. Schönebec, Prussian, Saxony 17. Dürrenberg, Saxony 18. Artern, Saxony 19. Halle, Saxony 20. Erferth, Saxony 21. Louisenthal	97. 251 98. 618 94. 072 90. 23 91. 78 95. 40 92. 642 94. 835 92. 773	0.777 2.151 1.134 .181 .141 .45 .09 .08 .719 .616 .865 .017 .060	0.307 488 .049	1.35 1.35 1.35 .41
	Calcium sulphate.	Magnesium sulphate.	Insoluble matter.	Water.
9. Lisbon, Portugal, first-crop sea salt 10. Lisbon, Portugal, second-crop sea salt 11. Aveirro, Portugal, first-crop sea salt 12. Aveirro, Portugal, second-crop sea salt 13. St. Felice sea salt 14. Velicka, Galicia, rock salt 15. Hall-Eyrol rock salt 16. Schönebec, Prussian, Saxony 17. Dürrenberg, Saxony 18. Artern, Saxony 19. Halle, Saxony 20. Erfurth, Saxony 21. Louisenthal	1. 19 . 72 1. 632 1. 061 1. 296	0.565 2.337 .903 .165 .060 .61 1.21 .47	0.045 (08 067 386 116 5.88 2.49	5.073 .86 1.89 2.90 4.700 3.000 4.600 .900 2.000

AUTHORITIES FOR ANALYSES.

Analyses numbered 1 to 8 of salts used in the United States were made by C. A. Goessmann. Ph. D., professor of chemistry in the Massachusetts Agricultural College, and published in a lecture on salt and its uses in agriculture, delivered before the State de artment of agriculture in Massachusetts.

Analyses 9, 10, 11, and 12, of Portuguese salt are from the Mechanics' Magazine.

No. 13 is by Von Stolba, and is from Oesterr-Zeitschrift für Berg-u. Hüttenwesen, 1867

Nos, 14 and 15 are by Von Stolba, and are from Die chemische Mittheilungen.

Prag, 1880.

No. 16 is by Heine, and is taken from Knapp's Lehrbuch der chemischen Techno'ogie. 3d ed.

Nos. 17, 18, 19, 20, and 21 are by Enders, and are from the Archiv der Pharmacie. vol. 143, p. 20.

PACKING THE PORK.

Mess pork is packed in barrels with layers of salt around and between the pieces. The salt used for this is usually one of the domestic brands, but the barrel is "capped" either with Turks Island or a very fine quality of coarse salt which comes from Louisiana. The barrel is then filled with brine of full strength. From 35 to 40 pounds of salt is used to each barrel, exclusive of that contained in the brine. For box meats about 10 per cent of salt is used for curing and 6 per cent for packing. A few packers are said to have their salt tested by chemists, but the majority rely upon the brand and appearance.

The size and quality of the packages are generally regulated by the boards of trade. Barrels contain from 12 to 16 pieces, or 190 pounds, of meat, boxes from 400 to 750 pounds, and tierces from 325 to 350 pounds. The boxes are made of pine, the barrels and tierces of oak.

The following are the rules regulating packages in force by the Chicago Board of Trade:

PACKAGES.

Cooperage.

Cooperage shall be made of well-seasoned white or burr oak, free from objectionable sap.

Barrels.

For barrels, staves should be five-eighths (§) of an inch thick, twenty-nine (29) or thirty (30) inches long; heads, eighteen (18) inches, one (1) inch thick in center and three-eighths (\$) at bevel; hoops, hickory or white oak, to be hooped not less than eleven-sixteenths (11).

Tierces.

Tierces for hams, shoulders, beef, or lard, should be thirty-two (32) inches long with a twenty-one (21) inch head, or thirty-three (33) inches long with a twenty and one-half (20) inch head; staves to be chamfered at the head. Quality of staves and hoops to be the same as for barrels; staves, three-fourths (2) of an inch thick: heads, same thickness as for barrels: hooped eleven sixteenths $(\frac{1}{16})$. Ironbound tierces for lard, hams, or shoulders shall be classed as standard if made in compliance with the requirements of this rule as to heading and staves, and booped with not less than four good hoops on each end.

Boxes.

Boxes should be made of sound common boards, reasonably dry, one inch thick, dressed on one side, not over three strips to each end, side, bottom, or top; to have good, strong hard wood, whitewood, or sap pine stays inside each corner; should be well nailed and strapped with birch, oak, or hickory straps around each end, to ap three inches on the cover. Boxes should be nailed together with tenpenny nails, and the stays nailed in with eightpenny nails.

Mess pork is stored in warehouses at a temperature of 40° to 50° F. In cold

weather it is often left out of doors.

INSPECTION OF PACKED MEATS.

The owners of pork have examinations made from time to time by rolling the barrels from time to time to learn if there has been leakage and loss of pickle. The boards of trade provide for an inspection of all hog products at time of sale. and this is made either by the regular board of trade or city inspectors, or by a private inspector agreed upon by the parties to the transaction. In all cases it is the privilege of the party purchasing to have a thorough inspection of the goods, and in the regular trade this inspection is always made by skilled experts. Very frequently the buyer prefers the inspection of the packers to that of public authorities and the meats are guaranteed down to the consumer. If in this case they are in any way defective from the negligence of the packer, deductions are allowed or

the goods can be returned.

Generally but 2 per cent of the pork in barrels is actually inspected at this time, though the buyer can have all inspected if he desires. Meats, either in boxes or in bulk, are examined piece by piece. A steel tryer is forced into every piece and its soundness determined by the appearance and odor of the instrument on its withdrawal.

Inspection is also made at this time for irregularly cut or oily meats, for bruises, for the meat of "stags" and "piggy" sows, and for any form of unsoundness, and

all such meats are rejected.

The meat from diseased animals almost invariably "sours" in curing, and can

not be made into first quality goods.

The meat of "stags" is distinguished by the thickness and coarseness of the skin, and that of "piggy" sows by the size of the teats and the general appearance. The inspector is paid by the buyer, and the inspection is made according to rules and prices adopted by the boards of trade in all the larger cities.

The regulations for the inspection of provisions of the Chicago Board of Trade

in force September 1, 1883, are as follows:

REGULATION 1. For the examination of provisions sold as standard it shall be the duty of any inspector properly appointed by the association. on receiving notice, to go to any packing house or warehouse in the city to examine provisions, in such quantities as may be required, se ecting the same in such a manner from

the lots specified as in his judgment will give a fair sample of the whole.

Reg. 2. If upon examination the property is found in all respects up to the requirements of the classification of the grades adopted by the association, he shall issue a certificate to that effect, which certificate shall state the number of packages, pieces, or pounds examined, and also the number of packages pieces, or pounds in the lot to which the examination is intended to apply, and that the packages (if any) are in good merchantable order and condition. In the case of lard no certificate for inspection shall be issued unless every package is examined, but on request of the owner or person ordering the inspection the inspector may examine a part of a lot and issue a certificate of such examination, stating the number of packages examined, and also the whole number of packages in the lot.

number of packages examined, and also the whole number of packages in the lot. Reg. 3. When necessary to remove property for the convenience of examination, it shall be the duty of the inspector to send for the same that a fair sample may be obtained. In no case should a certificate be granted on samples delivered

by the seller.

REG. 4. The fees for inspection are established as follows: For inspection by sampling-including repacking and coopering-beef and pork, for the first five barrels, eighty (80) cents per barrel, and for each additional barrel, twenty-five (25) cents; for inspecting S. P. meats, for the first five tierces, one (1) dollar per tierce, and for each additional tierce, twenty-five (25) cents; for inspecting boxed meats, for the first five boxes, one (1) dollar per box, and for each additional box, fifty (50) When the whole of a lot is inspected -labor and coopering to be furnished by the seller—for beef and pork, ten (10) cents per barrel; for S. P. meats, in lots of fifty (50) tierces or more, twelve and a half (12½) cents per tierce; in lots of one hundred (100) tierces or more, ten (10) cents per tierce; for bulk or boxed meat, in carload lots or more, fifteen (15) cents per one thousand (1,000) pounds; for lard, in lots of one hundred (100) tierces or more, four (4) cents per tierce; for tallow and grease, five (5) cents per tierce. The fees for weighing, not including breaking down and repiling, are established as follows: Lard and grease, in lots of one hundred (100) packages or more, four (4) cents per package: tallow. in half hogsheads or smaller packages, five (5) cents per package; in hogsheads, ten (10) cents each; bulk meats, not including labor, ten (10) cents per one thousand (1,000) pounds; for stripping lard or grease at regular warehouses, not less than five (5) packages, fifty (50) cents per package. For the labor of breaking down and repiling the inspector shall be paid three (3) cents per package, the same to be paid to the warehouseman if repiled, or to the party shipping the property if shipped without repiling.

Reg. 5. It shall be the duty of the inspector when requested by the owner, either at any packing house, warehouse, or in yards provided by the inspector, to overhaul and inspect provisions, according to the qualifications and classifications authorized; two hundred pounds of meat, with abundance of good salt, to be repacked into each barrel, and cooperage to be put in good order; each barrel of provisions that is sound, sweet, and free from any and every defect to have grade and date of inspection branded thereon, and the word "remacked," as hereinafter specified; and any portion that is defective to be branded, in like manner,

rusty, sour, or tainted, as the case may be; the said brand to be placed with the inspector's brand across the regular packer's brand; such provisions, according to the grade or quality, to be classed as "repacked 200 lbs."

REG. 6. The inspectors shall use metallic letters and figures, marking iron, or

stencil for their dates and class of inspection.

REG. 7. It shall also be the duty of the inspector to put his metallic brand, marking iron, or stencil on all samples of provisions in tierces or barrels that he inspects; and he shall pass no hog products in tierces or barrels as standard unless the real packer's name, location, number of pieces, date, and weight of the products contained therein are branded, according to these rules, on the head of every

package.

Reg. 8. Should the inspector be called upon to inspect pickled meats, and upon examination he should be of the opinion that the number of pounds required by these rules had not been originally packed, he shall not pass them as standard, but shall refer the matter at once to the committee on provision inspection, who shall investigate, and if a satisfactory explanation can be given or arrived at, they shall instruct the inspector to proceed and inspect and pass them; but if not satisfactory to the committee they shall, in their judgment, make the fact known to the association in any way they may think most proper.

REG. 9. Contents of each package of pickled meats must show a reasonable uni-

formity in weight, according to its class.

Reg. 10. It shall be the further duty of the inspectors during the packing season to visit frequently the different packing houses, to see that provisions are properly dated and branded at the time of being packed.

REG. 11. Dry salted rough sides may be made into short rib or short clear sides, and dry salted short-rib sides may be made into short clear sides if in all other

respects they are up to the requirements, and shall be classed as standard.

Reg. 12. All the foregoing regulations and the requirements as to the cut and packing of hog products must be justly and liberally construed, and no property shall be rejected or condemned on mere technicalities; but this shall not be regarded as giving license to departure from their general spirit and intent.

The rules adopted by the Cincinnati Chamber of Commerce for governing the provision trade, including inspection, dated August 1, 1882, are as follows:

Rules for the government of the provision trade.

Rule 1. The committee on provision inspection shall act as referees in all cases of complaints against inspectors, or the inspection of any lot of provisions, or any matters of business pertaining to the same; but the buyer shall, in all cases, have the right to designate his own inspector; but in case the seller feels that injustice is being done, he shall have the right to call upon the committee of inspection, whose decision shall be final and binding. Any inspector agreed upon by parties to a transaction shall be regarded as a regularly authorized inspector, subject to the rules of the chamber, and the committee on provisions shall constitute the committee of reference.

Rule 2. All appeals from inspection must be made before the property leaves

the city, packing point, or place of delivery.

RULE 3. Pork products packed between November 1st and March 1st shall alone

be classed as "standard.

Rule 4. In sales of fully cured meats, or to be fully cured and delivered at a specified time, the seller must deliver in good faith according to the contract, the inspector to be the judge, who shall always be fully informed of the conditions of the contract before proceeding to inspect. Where sales of dry salted meats are made without other specifications, it shall be considered that the sales contemplate

meats fully cured, the inspector to be the judge.

RULE 5. In case of no specific agreement the saltage allowed on bulk meats shall be one (1) per cent from the 1st of November to the 1st of May; but should the buyer or seller object, the inspector shall sweep as many drafts as he may consider necessary, and the percentage thus obtained shall be binding on both parties. But from the 1st of May to the 1st of November the tare shall be ascertained by washing in cold water with a cloth, in case of no special agreement to the contrary. A drainage of one (1) per cent shall be allowed on pickled hams and shoulders.

RULE 6. To determine the tare on lard the package shall first be weighed gross, the lard then removed, and the empty package subjected to dry heat and drained, after which the empty package shall be weighed and its weight deducted from the gross weight. The difference thus obtained shall be considered the net weight of

the lard.

RULE 7. Three hundred and twenty pounds, net, shall be the average weight of a tierce of lard, upon which all settlements with contractors shall be based; but the number of packages the contract calls for must be delivered, and the differ-

ence, if any, settled at the market price on the day of delivery.

Rule 8. Four hundred to four hundred and fifty pounds, net, shall constitute a box of Cumberland middles, and four hundred and seventy-five to five hundred and twenty-five pounds, net. shall constitute a box of all other English cuts of middles, shoulders, and hams, and all boxes containing over five hundred pounds of meat to have a third strap around the box. All settlements of contracts shall be made on a basis of four hundred and twenty-five pounds per box, net, for Cumberland cut, and five hundred pounds per box, net, for all other English cuts of

RULE 9. If on inspection of a fair sample of bulk meats twenty (20) per cent or

over is found to be sour the buyer shall not be required to take the lot.

RULE 10. All the foregoing rules must be justly and liberally construed, and no

property shall be rejected or condemned on a mere technicality.

RULE 11. The committee on provisions shall not have power of arbitration, but shall be empowered to consider all cases in reference to quality of meats, cooperage, etc., and parties refusing to abide the decision of the committee while acting in their line of duty shall be liable to arraignment for unmercantile conduct

Rule 12.1 In case of no specific agreement, contracts for 100 barrels of pork, 100 tierces of lard. 100 boxes dry salted meats, or for a larger amount deliveries can be made on seller's option, or called for on buyer's option, in lots of not less than

100 packages, as above named, nor less than 100 packages of one brand.

Contracts for 50 hogsheads or 50 half-hogsheads of bacon or dry salted meats, or more, deliveries can be made on seller's option or called for on buyer's option in quantities of not less than 50 hogsheads or 50 half-hogsheads, and not less than this quantity of one brand.

Contracts for 100,000 pounds of bacon or dry salted meats, loose, or for a larger amount, deliveries can be made on seller's option or called for on buyer's option in

quantities of not less than 100,000 pounds.

Contracts for 100 tierces of hams or shoulders in pickle, smoked, or canvased, or for a larger amount, deliveries can be made on seller's option or called for on buyer's option in lots of not less than 50 tierces nor less than 50 tierces of one brand.

Payment to be made as lots are delivered.

RULE 13. It shall be the duty of the inspector of provisions to weigh stuff when called upon, receiving therefor a fee of five (5) cents per each one thousand (1,000) pounds in addition to the inspection fee-the party ordering the weighing to be responsible for the fee.

RULE 14. The inspector shall keep a record in detail of every examination he

may make, that he may be qualified to testify positively in event of a dispute.

RULE 15. For the examination of provisions sold as "regular." it shall be the duty of the inspector (or his deputed assistants), on receiving notice, to go to any packing house or warehouse in the city to examine provisions in such quantities as may be required, selecting the same in such manner, from the lots specified, as in his judgment will give a fair samp'e of the whole.

RULE 16. If upon examination it is found in all respects up to the requirements according to the classification or grades adopted by the chamber of commerce, he

shall issue certificates to that effect,

When necessary to remove property for the convenience of examination. it shall be the duty of the inspector to send for the same, that a fair sample may be obtained. In no case should a certificate be granted on samples delivered by the seller.

RULE 17. The inspector shall be entitled to receive as compensation for examining provisions as follows: For beef and pork, in barrels, five dollars for the first five barrels, the inspector furnishing labor and other requirements and seeing that the property is properly repacked and rebrined, and fifty cents for each additional barrel examined—payable by the buyer if regular, and by the seller if rejected, and cartage when removed: and for bulk bacon or boxed meats, fifteen cents per one thousand pounds, payable by the buyer. For inspecting lard, five cents per package, payable by the buyer if accepted or by the seller if rejected; and for stripping lard, one dollar per package, to be paid by the buyer. Five barrels of pork or five tierces of lard to be sufficient to sample any lot sold, unless otherwise agreed between buyer and seller.

RULE 18. It shall be the duty of the inspector, when requested by the owner, either at any packing house, warehouse, or in yards provided by the inspector, to overhaul and inspect provisions according to the qualifications and classifications

authorized; two hundred pounds of meat, with abundance of good salt, to be repacked in each barrel and cooperage to be put in good order. Each barrel of prov sions that is sound, sweet, and free from any and every defect to have grade and date of inspection branded thereon and the word "repacked," as hereinafter specified; and any portion that is defective to be branded in like manner "rusty." "sour," or "tainted," as the case may be; the said brand to be placed, with the inspector's brand, across the regular packer's brand, such pork, according to the grade or quality, to be classed as "repacked, 200 pounds."

RULE 19. The inspector shall use metallic letters and figures or marking-iron for

his dates and classes of inspection.

RULE 20. It shall also be the duty of the inspector to put his metallic brand or marking-iron on samples of provisions in packages that he inspects; and he shall pass no pork products as "regular" unless the real packer's name of the product contained therein is branded, according to these rules, on the head of each package,

RULE 21. In all cases of sales of provisions as "regular," the inspector shall examine and inspect when called on; and if the property be up to the requirements, he shall issue a certificate simply for so many barrels or packages of product (nam-

ing it), for so many pieces or pounds of meat (naming the kinds).

RULE 22. Should the inspector be called on to inspect pickled meats, and upon examination he should be of the opinion that the number of pounds required by these rules had not been packed, he shall not pass it as "regular," but shall refer it at once to the inspection committee, who shall investigate, and if a satisfactory explanation can be given or arrived at, they shall instruct the inspector to proceed and inspect and pass it; but if not satisfactory to the committee, they shall, in their judgment, make the fact known to the provision trade in any way they may think proper.

RULE 23. All "hog products," to be "regular." must be from corn-fed slaughtered hogs, not frozen before cutting, and shall average not less than 14 pounds for

shoulders, or 30 pounds for sides, and must run at least 80 per cent sweet.

No hogs shall be killed on the same day on which they arrive at the pens of the

slaughterhouse.

RULE 24. Where meat is in store it shall be weighed and inspected in store; where meat arrives by river, rail, or canal, it shall be inspected and weighed at house of buver.

RULE 25. All bacon uncanvased, bulk meats packed between March 1 and

November 1, shall be in fly-tight cooperage.

RULE 26. In all sales of provisions for future delivery either party may call for a margin at any time, unless it is expressly understood between the parties at the time the contract is entered into that such call can not be made. In the absence of special contract either party shall be entitled to a margin equal to ten (10) per cent of the market value of the article contracted to be delivered, the same to be kept good, twenty-four (24) hours' notice in writing to residents and forty-eight (48) hours' notice in writing or by telegraph to nonresidents shall be given on a call for a margin and where a water field to recover the such soil writing the call. call for a margin, and where a party fails to respond to such call within the said time the property may be sold at public auction on the floor of the Merchants' Exchange during 'Change hours on the following day "for account of whom it may concern.

RULE 27.1 In settlement of contracts (unless otherwise specified) the following

weights shall govern:

Dry salted meats or bacon:	
Packed in hogsheads—	Pounds.
Shoulders	. 1,000
Rib sides	900
Clear rib sides	950
Clearsides	1,000
Packed in half hogsheads—	
Shoulders	550
Rib sides	500
Clear rib sides	550
Clear sides	- 575
Hams or shoulders:	
Smoked and canvased, packed in tierces	
In pickle, packed in tierces (green weight)	_ 300

RULE 28. All barreled provisions offered for sale as "regular" in this market must be cut, selected, and packed in all respects as to quality and condition equal to the classification of inspection as adopted by the chamber of commerce.

RULE 29. Unless otherwise stipulated, in all sales made of any of the grades of provisions represented as "regular," the seller shall be bound to fulfill his sale by the delivery of the quality called for by such sale, and which on examination by the inspector has been certified by him to have been packed according to the classification, and is at the same time of delivery in good merchantable condition in every respect.

Provisions from which any surplus gain has been removed can not be classed as

"regular."

RULE 30. All provisions sold in this market, in the absence of special agreement, shall be deemed "regular," and the property must comply with the requirements of the rules of inspection of the board. All provisions sent to this market for sale, which are, in all respects, in conformity with these rules, shall be classed as "regular."

RULE 31. No original weight shall be taken out of any package of provisions without removing the original packer's brand entirely from the head of the package, and the bland "repacked" burned in the head distinctly.

RULE 32. In all cases product should be sold "regular," but in case a particular brand is sold, and upon examination the product will not inspect "regular," the buyer shall elect to take another brand, or the difference in value of the special

brand shall be settled between the buyer and seller.

RULE 33.1 On sales of provisions for future delivery, on buyer's option, if the buyer call before the expiration of the month of contract, the seller, if he so elect. shall in case of barreled meats and lard in tierces have two working days notice, and for boxed meats, pickeled or smoked hams, and shoulders in tierces, or dry salted meats, four working days to prepare property for delivery; and when, at the option of seller, the seller tenders before the expiration of the month of con-tract, the buyer, if he so elect, shall have the same time to prepare for receiving the same.

RULE 34. Buyers of provisions on time contracts shall have the right to inspect before the day of delivery, provided they send an inspector in time to allow the inspection to be completed before the expiration of the contract: but failing to do so the seller shall have the privilege of having the property inspected, the cost to be paid by the buyer.

Rule 35.2 Where the buyer of provisions fails to avail himself of the privilege

of inspection, in the absence of any special agreement upon the part of the seller to guarantee his product, the liability of the seller shall, as to quality, saltage, and weights cease when the product shall have left his house.

The rules for inspection of provisions adopted by the Saint Louis Chamber of Commerce are as follows:

RULE XII.

Inspection and delivery of provisions,

SECTION 1. The board of directors shall appoint inspectors of provisions, not to exceed three, upon the written application or indorsement of not less than five regular dealers in beef or hog product, either on their own account or on commission, members of the exchange, who shall be authorized, when called upon, to inspect in person or by assistants, and report the actual condition of the property The inspectors may appoint competent assistants, said assistants in inspected. all cases to be approved by the board of directors, but the certificate of inspection must be signed by an appointed inspector, though the inspection was made by an assistant under his direction, and the inspector signing shall be accountable to the same extent as if the property had been actually inspected by himself. Each inspector shall give bond for the faithful performance of his duty as indicated by the rules of the exchange, or by order of the board of directors, which bond shall be satisfactory to the board of directors and their successors, and approved by them before he shall enter upon his duties, for the use and benefit of any person or persons who may be aggrieved or injured on account of his official acts. Inspectors shall receive for their services the fees for inspection as established and fixed by the board of directors. The board shall also appoint five members of the exchange as a committee on provision inspection, who shall act as referees in all cases of complaint against inspectors for the inspection of any lot of provisions, or any matters of business pertaining to said inspection. The buyer, however, shall in all cases have the right to select his own inspector from the inspectors appointed by the board of directors; but in case the siller feels that injustice is being done, he shall have the right to call upon the committee on inspection, whose

Adopted February 8, 1877. Adopted September 27, 1875.

decision shall be final and binding. In the absence of such committee, arbitrators may be substituted. Buyers of provisions shall have the right to inspect before the day of delivery, provided they send an inspector in time to allow the inspec-tion to be completed before the expiration of the contract; but, failing to do so, the seller shall have the privilege of having the property inspected by an inspector appointed by the board of directors, the cost to be paid by the buyer. All appeals All appeals from inspection must be made before the property leaves the city, packing point, or place of delivery. The committee shall be allowed one dollar each for every case decided by them, to be paid by the parties in default.

SEC. 2. The inspector shall keep a record, in detail, of every examination he may make, that he may be qualified to testify positively in the event of a dispute. SEC. 3. In case of no specific agreement, the saltage allowed on bulk meats shall be (1 per ct.) one per cent from the first of November to the first of May; but, should the buyer or seller object, the inspector shall sweep as many drafts as he may consider necessary, and the percentage thus ascertained shall be binding on both parties: but from the first of May to the first of November the tare shall be ascertained by washing in cold water with a cloth, in cases of no special agreement to the contrary. A drainage of (1 per ct.) one per cent shall be allowed on

pickled hams, shoulders, and mess pork, and they shall be free from salt.

SEC. 4. To det rmine the tare on lard, the package shall first be weighed gross, the lard then removed, and the empty package subjected to dry heat and drained, after which the empty package shall be weighed, and its weight deducted from the gross weight; the difference thus obtained shall be considered the net weight of the lard.

SEC. 5. Three hundred and twenty pounds, net, shall be the average weight of a tierce of lard, upon which all settlements on contracts shall be based: but the number of packages the contract calls for must be delivered, and the difference,

if any, settled at the market price on the day of delivery.

SEC. 6. Pickled hams and shoulders shall be sized when packed, the light, medium, and heavy, separately, as near as practicable. Number of pieces and green weight, packer's name and location, and date of packing shall be branded on the head of each package, the date to be branded with metallic letters, marking

iron, or stencil, at time of packing.

SEC. 7. In English meats the pieces shall be classified, and the light, medium, and heavy packed separately as nearly as practicable, in boxes made to fit the different sizes. Four hundred to four hundred and fifty pounds, net. shall constitute a box of Cumber and middles; four hundred and seventy-five to five hundred and twenty-five pounds, net, shall constitute a box of all other English cuts of middles, shoulders, and hams: and all boxes containing over four hundred and fifty pounds of meat to have a th rd strap around the box. All settlements of contracts shall be made on a basis of four hundred and twenty-five pounds per box, net, for Cum-

berland cuts, and five hundred pounds per box, net, for all other English meats. Sec. 8. If on inspection of a fair sample of bulk meats twenty (20) per cent or

over is found to be sour, the buyer shall not be required to take the lot.

SEC. 9. Dry salted rough sides may be made into short ribs or short clear sides, and dry salted short rib sides may be made into short clear sides, if in all other

respects they are up to the requirements, and shall be classed as standard.

SEC. 10. On all contracts for boxed meats it shall be understood that the meat may not be fully cured, but shall have been from fifteen to twenty days in salt

before boxing.

SEC. 11. On all contracts or sales of barreled pork, not less than fifty barrels of

one brand shall be delivered.

Sec. 12. If, in the opinion of the inspector, one hundred and ninety pounds of green meat shall have been packed in a barrel of pork, then it shall be classed as standard, and should there be sufficient overweight to cover any irregularity of packing, then in that case it should also be passed as standard.

SEC. 13. In no case should a duplicate inspection certificate be issued by the inspector, except on sufficient evidence of the loss of the original.

SEC. 14. On all deliveries on contracts for bulk meats and pickled meats other than barreled pork, the inspection certificate shall hold good for five days, and on

barreled pork for ten days.

SEC. 15. Pork product, to be standard and delivered on contracts, must be sound, fully cured, and cut, as is required by the rules of the exchange. Barreled pork, to be standard, must be packed between the first of November and the first of March, and barreled pork and hams in pickle shall not be standard or deliverable on contracts after the first day of January following the packing season in which they are made. Repacked pork shall not be classed as standard or deliverable on contracts; but this shall not apply to pork examined and repacked by an authorized inspector for the purpose of passing upon the condition thereof. No certificate of beef or hog product shall be recognized as regular unless it is signed by an

inspector appointed by the board of directors.

Sec. 16. In case property does not pass inspection, the fees shall be paid by the seller. No original weight shall be taken out of any barrel or tierce of provisions without the inspectors removing the original packer's brand entirely from the

head of the package.

SEC. 17. All deliveries of beef or hog products sold for future delivery, in the absence of special agreement, shall be by the delivery of warehouse receipts, issued from such warehouses or places only as shall have been declared a regular warehouse, or other place, for the storage of such property under the rules of the Merchants' Exchange by the loard of directors. Such places of storage, in all cases, shall be suitab e for the preservation of the property, and all deliveries shall be accompanied by the certificate of inspection of an inspector of provisions, appointed by the board of directors, which inspection shall conform to the rules of the Merchants' Exchange governing such property. Any person or persons or corporation des ring to have their warehouse or places declared regular shall make application therefor to the board of directors, stating his or their location, insurance, facilities for shipping, and shall furnish such other information as may be required by the board of directors, and shall also give a good and sufficient bond in such sum as the board of directors may require, that property placed in his or their or its care shall have the necessary attention for its preservation. Any place declared and designated as regular may, for good and sufficient reasons, satisfactory to the board of directors, be declared by said board no longer a regular warehouse for the storage of provisions, under the rules of the exchange, provided, however, that property already in store in such warehouses shall continue to be regular on delivery so long as it remains in such warehouse.

The meat rejected by the above inspection is selected according to its condition. The worst quality, including all that may be unfit for food, is consigned to the offal tank and the remainder sold on its merits, usually going to the markets of the South and the West Indies.

LARD,

There are a number of grades of lard made at packing establishments: 1. Choice lard made from leaf and trimmings, which may be either kettle or steam rendered, and has the method of rendering stamped on the packages. 2. Prime steam lard from the hog "round." which includes nearly everything from the hog not mentioned in No. 1, but should contain no salted trimmings. 3. "Off grade" lard from salted trimmings.

OFFAL.

In the offal is included the blood, hair, head, feet, heart, lungs, liver, kidneys, stomach, and intestines. The blood is boiled until coagulated. It is then pressed for the grease, ground, dried, and sold for fertilizers, the price of this being regulated by the per cent of ammonia. The hair is sold to curlers. The tongues are pickled. The cheek meat is made into "brawn" or sausage. The head, heart, lungs, kidneys, liver, stomach, and such of the intestines as are not used for sausage casings are tanked for grease. The residue from tanks is dried for fertilizer. The feet are made into glue or pickled.

In addition to the general statements received from numerous packers in the country, a large amount of specific information was received from Messrs. Armour & Co., of Chicago, probably the most extensive packing house in the world.

The correspondence and the questions and replies are here inserted in full.

CHICAGO, January 22, 1884.

E. W. BLATCHFORD, Esq., Chicago, Ill.

DEAR SIR: We are in receipt of your favor of yesterday, with its inclosures, all of which have full consideration. We take pleasure in complying with your request and leg to hand you with this our answers to your various inquiries. have endeavored to make them as explicit and comprehensive as possible, for we fully appreciate their importance: and if you should desire further information in connection with this matter, please be assured that our services are at your command.

Very respectfully, etc.,

ARMOUR & Co.

The following are the questions and answers:

Q. 1. Where and how are the hogs purchased?—A. At the stock yards, from shippers and drovers, by careful, experienced men.
Q. 2. How do you buy your hogs?—A. Through our own buyers in the yards,

whose instructions are positive concerning quality and condition, and to make careful selections.

Q. 3. In selecting hogs what do you reject?—A. They are told to reject every-

thing objectionable.

Q. 4. Diseased animals?—A. Yes; invariably.
Q. 5. Bruised animals?—A. Yes; they are useless for our purposes.

Q. 6. Ruptured animals?—A. Yes; we avoid them.
Q. 7. Still-fed animals?—A. Yes; wherever it can be discovered.
Q. 8. Pregnant sows?—A. Yes; if too far advanced.

Q. 9. Stags?—A. Yes; unless at reduced valuation, and for special uses and markets here.

Q. 10. Crippled hogs?—A. Yes; they are always avoided.

Q. 11. Are hogs usually rejected for these reasons?—A. Yes; for packing pur-

Q. 12. If not rejected, what do you do with them?—A. They are usually put into

the offal tanks.

Q. 13. Is it not customary to buy hogs from the general appearance, weight, and evenness of a lot?-A. Yes, frequently.

Q. 14. What is done with rejected hogs?—A. They are either resold or put into

the offal tanks. Q. 15. How long are the hogs kept in your pens before slaughtering?—A. About

twenty-four hours.

Q. 16. Why are they kept this length of time?—A. To cool off and to improve

- their condition. Q. 17. How do you care for them in your pens?—A. Give them plenty of fresh
- water and corn. Q. 18. How are these pens constructed?—A. They are covered and have wooden floors.
- Q. 19. Do any die in the pens?—A. Occasionally, but they are closely watched. Q. 20. If so, how many, and from what cause?—A. The number is insignificant; the cause is smothering.

Q. 21. What is done with the dead hogs?—A. They are put into the offal tanks

invariably.

Q. 22. How are the hogs prepared for slaughtering?—A. By being rested, watered, and fed.

Q. 23. Is the condition of the hogs at all observed or considered before slaughtering?-A. It is, always.

Q. 24. How is the proper condition of the hog assured at time of slaughter?—A. By examination and general appearance.

Q. 25. How are the hogs taken from the pens to the slaughtering room?—A.

- They are driven a short distance. Q. 26. If hogs are unable to be driven to the slaughtering room, what is done with them?—A. Unless healthy and in good order they are killed and put into the
- offal tank. Q. 27. What mode of slaughter do you adopt?—A. They are bled to death by cutting the main arteries in the throat.

Q. 28. What time is allowed the hog to bleed?—A. Until he is dead.

Q. 29. Is an examination made whether life is extinct before scalding?—A. Yes. Q. 30. What is done with the carcass when coming out of the scalding tub?— A. It is scraped; the entrails are removed, and it is sent to the cooling room.

Treatment of carcass of hog after slaughter.

Q. 31. What time is allowed the carcass to cool before cutting up?—A. From thirty-six to forty-eight hours.

Q. 32. Is the carcass thoroughly cooled before going to the cutting bench?—A. Yes; thoroughly.

Q. 33. Is this rule strictly carried out?—A. Yes; very carefully.

Q. 34. Why is the thorough cooling of the carcass important before cutting up and commencing to cure?—A. In order to remove all animal heat, and to prevent souring.

Q. 35. Is there any inspection made to ascertain that it is thoroughly cooled?— Yes.

Q. 36. What is your rule for cutting?—A. After hanging for forty-eight hours. Q. 37. Is inspection of meat had at time of cutting up, and for what?—A. Yes; to detect all objectionable pieces.

Q. 38. Is such inspection sufficient'y thorough to detect disease or bruises?—A. Yes; entirely so.

39. After cutting up the carcass how are the parts treated to effect a cure?-Q. 39. After cutting up the with brine. Well salted, and covered with brine.

Q. 40. How are they piled to secure thorough curing?-A. In cold cellars. Q. 41. What is the temperature of the room?—A. About 35° Fahrenheit.
Q. 42. What time is required for curing?—A. About forty to sixty days.
Q. 43. Is meat ever shipped before being fully cure l?—A. Very seldom.

Q. 44. Is it desirable to perfect the curing of the meat in as short a time as pos-

sible?-A. We think not.

Q. 45. Is not the curing of the meat often forced for the purpose of making it salable and deliverable in as short a time as possible?—A. We think not.

Q. 46. Do you ascertain by inspection the soundness of your cured meat?—A. We

do. always.
Q. 47. To what causes do you attribute unsound or "sour" meat?—A. Negligence in curing, and careless handling, and cutting before the cooling is completed. Q. 48. Do you attribute it to a d seased careass: -A. No, not necessarily.

Q. 49. Do you attribute it to a faulty treatment?—A. Yes. usually. Q. 50. Do you attrioute it to a want of care?-A. Yes, generally

Q. 51. What quantity of "sour" meat do you have?—A. It is infinitesimal. Q. 52. What is done with it?—A. It is put into the offal tanks, or sold on its merits to home markets.

Q. 53. What, if any, changes in modes of curing are adopted for meats destined to markets in different climates? -A. No changes: but careful selections.

Q. 54. Can as reliable results of curing be had in summer as in winter? -A. Yes,

with proper care and ice facilities. Q. 55. What kind or kinds of salt are used?—A. Both foreign and domestic, coarse and fine.

Q. 56. How do you give this or that kind preference?—A. Coarse for pickling; fine for dry salting.

Q. 57. How is meat packed for shipment?—A. In boxes, sprinkled with salt, and also in brine.

Q. 58. What is the quality of the packages used?—A. Pine boxes, and oak bar-

rels and tierces.
Q. 59. What is the size of packages?—A. Boxes hold about 500 pounds; barrels, 200 pounds; tierces, 300 pounds.

Q. 60. Is any salt put in?-A. Yes.

Q. 61. How much to each box of meat?—A. About 50 pounds.

Q. 62. What is the rule?—A. No special rule; the custom is from 40 to 50 pounds.

Q. 63. Is this rule strictly adhered to?—A. We think it is.

Q. 64. Is not less salt used than the rule calls for to save expense?—A. We think not.

Q. 65. What is the character of the salt used?—A. Fine salt.

Q. 66. Is any care taken that the salt be clean?—A. Yes. Q. 67. What is your rule for cutting mess pork?—A. From well-fatted hogs; uniform strips, according to board of trade rules. Q. 68. How many pieces in each barrel?—A. About sixteen pieces.

Q. 69. What is the weight of meat in each barrel?—A. 190 pounds packed in winter and 200 pounds packed in summer.

Q. 70. What kind of salt is used?—A. Coarse salt.
Q. 71. What quantity of salt is used?—A. About 30 pounds of coarse salt, and the barrel filled with brine.

Q. 72. How is the quality of the salt tested?—A. By analysis, and the use of the salometer.

Q. 73. Where is the mess pork stored?—A. Generally in cool cellars. Q. 74. What are the regulations regarding its storage?—A. That it shall be in warehouse well located.

Q. 75. What is the temperature of the warehouse?—A. Generally about 40° or 50° Fahrenheit.

Q. 76. What examinations are made as to its condition from time to time?-A. Packages unrolled to ascertain about the pickle; occasionally opened, and cooperage also examined.

Q. 77. What numbers of hogs do you kill annually?—A. About one million in our Chicago house.

Q. 78. What is their average weight?—A. From 260 to 280 pounds live weight. Q. 79. What parts of the hog do you use for lard?—A. Leaf and trimmings. Q. 80. What do you include as offal?—A. Portions of the entrails and general

refuse.

Q. 81. What is done with the head?—A. The meat is made into head-cheese and the balance is put into the offal tanks.

Q. 82. What is done with the feet?—A. Some are thrown into the offal tank, others are cooked and pickled.

Q. 83. What is done with the entrails?—A. Some are cleaned for sausage casings,

and the balance thrown into the offal tank.

- Q. 84. What is done with the heart, liver, and lights?—A. Some are used for sausages and the balance thrown into the offal tank.
- Q. 85. What is done with the blood?—A. It is dried and used as a fertilizer. Q. 86. What is done with the refuse from tanks?—A. It is dried and made into fertilizers.

- Q. 87. Is all meat inspected before being shipped?—A. Yes, as a rule. Q. 88. By whom?—A. By the board of trade and other inspectors, and by ourselves.
- Q. 89. Under what authority?—A. Of the board of trade and mutual agreement. Q. 90. Is meat ever packed and shipped without being inspected?—A. No, except by possible oversight.

Q. 91. Under what circumstances?—A. By mistake or oversight.
Q. 92. Do you ever guarantee inspection?—A. Yes.
Q. 93. If so under what circumstances, and to what extent?—A. When buyers

have our confidence and rejections can be returned.

- Q. 94. What course does the inspector take in examining meat?—A. He goes in person, or by deputy, by mutual consent and arrangement of buyers and sellers. Q. 95. Does he examine each piece?—A. Yes.
 - Q. 96. What tests are made?—A. He uses a "tryer," made for this purpose.

Q. 97. For fully or properly cured?—A. Yes, both.

Q. 98. For stags?—A. Yes.

Q. 99. For piggy sows?—A. Yes.
Q. 100. For sour meat?—A. Yes.
Q. 101. For bruised meat.—A. Yes.
Q. 102. For what causes is meat rejected?—A. For the above; also for irregular

cuts, and for imperfect cure.

Q. 103. What is done with meat rejected by the inspector?—A. It is selected, sold on its merits to home markets, or put into offal tanks, according to its condition.

Q. 104. What do you say to inspection?—A. We respectfully suggest that a Government inspection of exported (or other) meats would no doubt meet with general approval, and it could doubtless be harmonized or merged into the present authorized systems in each important market.

Similar questions were addressed to the leading packing houses in Baltimore, Philadelphia, Jersey City, New York, Boston, West Albany, and Buffalo. The answers in all cases were essentially the same as those received from Armour & Co., of Chicago.

PURCHASE AND SALE OF HOG PRODUCTS.

The ordinary course of purchase and sale of hog products is as follows:

When a purchase of these products is made of a packing firm, an order is issued in favor of the buyer for the number of packages or pieces of meat sold; also an order to permit the buyer's inspector to make a satisfactory inspection of the meats. The purchaser hands the order for the meats to the agent of the railroad company, and the order for inspection to his inspector, or the regularly authorized inspector, as he sees fit, giving to each such instructions as will best carry out the terms of his purchase.

The rules and regulations for the purchase and sale of provisions and their inspection, adopted by the St. Louis Chamber of Commerce, of December 18, 1883,

are as follows:

SEC. 14. All provisions offered for sale as "standard" in this market must be cut, selected, and packed in all respects as to quality and condition equal to the standards established by the board of directors, and the seller shall be bound to fulfill his sale by the delivery of the quality called for by such sale, which, on examination by the authorized inspector, has been certified by him to have been packed according to the established classification, and is at the time of delivery in good merchantable condition in every respect. Provisions from which any surplus gain has been removed can not afterwards be classed as "standard."

SEC. 15. In sales as standard of a particular packer's brand or cut, if the property does not pass inspection, the buyer shall elect either to take the lot tendered at contract price or require that some other brand or cut be substituted therefor that will pass inspection, or to receive the difference in value between the property tendered and such as called for by the contract: and such election shall be binding

upon, and be carried out by, both parties as a settlement of the contract.

SEC. 16. In all cases of sales of provisions as "standard" the inspector shall examine and inspect, when called upon, and shall decide if the property be up to the requirements; and he shall issue his certificates, stating correctly the condition and quality of the property inspected and specify the defects, if any exist therein.

Sec. 17. In sales of fully cured meats, or to be fully cured and delivered at a specified time, the seller must deliver in good faith, according to contract, the inspector to be the judge, who shall always be fully in ormed of the conditions of the contract before proceeding to inspect. Where sales of dry salted meats are made without other specifications it shall be considered that the sales contemplate meats fully cured, the inspector to be the judge.

SEC. 18. On sale of provisions for future delivery, "at buyer's option," if buyer calls before expiration of contract the seller, if he so elect, shall have at least five working days to prepare property for delivery, in the case of bacon and bulk meats. Purchasers of provisions shall have three days free of storage to remove property when in store.

property ... zer tz ettere.

The rules of the Chicago Board of Trade governing the purchase and sale of hog products and their inspection, adopted September 1, 1883:

RULE XXV.

Provisions.

SECTION 1. The board of directors shall appoint five members of the association as a committee on provision inspection, who shall have and exercise a general control over the inspection of provisions, and shall act as referees in case of complaint against the chief inspector of provisions or the inspection of any lot of provisions, or any matter of difference pertaining to the same, except as hereinafter provided. The committee shall be authorized, in determining the correctness of any inspection they are called upon to revise, to adopt any measures they may deem necessary under the circumstances for the ascertainment of its true character. The committee shall be entitled to fees amounting to \$3 each for each case of appeal decided by them, to be paid by the party against whom the decision shall be made.

SEC. 2. The board of directors shall also appoint a suitable person as chief inspector of provisions, who shall be required to give a bond in such amount as may be prescribed by the board of directors for the faithful performance of his duties as indicated by the rules of the board of trade or by order of the board of directors. Said bond shall be satisfactory to the board of directors and be approved by them before the said chief inspector shall be entitled to enter upon the discharge of his official duties. Said bond shall be made to the president of the board of trade and his successors in office, for the use and benefit of any parties having legal claims for damages against said chief inspector on account of any of his

official acts.

SEC. 3. The chief inspector of provisions shall appoint, to be confirmed by the committee on provision inspection, a sufficient number of competent deputy inspectors, who shall be under his control and subject to his orders in all matters

pertaining to the performance of official duty.

Sec. 4. The chief inspector, through and by his deputies, shall furnish the necessary labor and materials for inspection. The several deputy inspectors shall make a report in detail of every inspection or examination they may make, which report shall be returned to the chief inspector and be by him preserved for future

reference.

SEC. 5. The board of directors shall also appoint a competent person as registrar of provisious, whose duty it shall be to provide and cause to be kept suitable books in which shall be registered all warehouse receipts for beef and hog product issued as "regular" or for the "regular delivery" of such property in the Chicago market under the rules of the board of trade. Such receipts, after being so registered, shall be stamped or written across their face with the word "registered," and the date of such registry, and signed, in writing, by the said registrar or some person duly authorized by him for that service. All warehouse receipts, before being registered, shall be plainly numbered, and shall indicate on their face the number or mark of the particular lot of property intended to be covered or represented by such receipt. All such receipts issued from or by each warehouse or other place of storage shall be consecutively numbered, and no receipts of duplicate numbers

issued from the same place of storage shall be registered. All property covered or represented by registered warehouse receipts shall be plainly marked in such manner as will clearly distinguish it from all other property stored in the same warehouse or place of storage, and by such marks, numbers, or characters as may be approved by the registrar of provisions, such marks to be so arranged as to avoid the possibility of duplication or uncertainty as to the identity of the property so receipted for. No warehouse receipt shall be registered until a report shall have been received at the office of the registrar of provisions from a duly authorized deputy that the property represented by the receipt is actually in the place of storage and is marked as indicated in the receipt. Such reports shall be in a form prescribed by the registrar, and shall be preserved by him for future reference. second warehouse receipt for the same property shall be registered unless the original is presented at the time and its registration canceled by the registrar. In such case new receipts, either for the whole or parts of lots, or the consolidation of different lots, may be registered upon the report of a deputy that the property is in the place represented and is marked as represented. All new receipts so registered shall bear the same date, as near as may be, with the originals so canceled, and no receipts differing in date more than thirty days shall be consolidated into a new receipt.

No property shall be removed from the place of storage indicated by any registered receipt issued to represent it until the registration of such receipt has first been canceled in the office of the registrar of provisions by writing or stamping

across its face the words "Registration canceled."

Sec. 6. The chief inspector shall receive for his services and for the compensation of the deputy inspectors employed him by the fees for inspecting as established by the board of trade. The registrar shall receive as compensation for his own services and the necessary expenses of his office such sum, to be paid from the funds of the association, as may be determined by the board of directors.

SEC. 7. All claims for errors of inspection or damages resulting from improper inspection shall be made to the chief inspector, and in case of dispute as to the validity of any claim so made the question shall be decided by the committee on provision inspection, or by a special arbitration, if either of the parties so prefer. In the latter case the arbitrator shall be chosen either by mutual agreement, or an equal number, not exceeding two, may be selected each by the chief inspector and the claimant; and the persons so chosen shall select an additional arbitrator. Arbitrations, either by the committee on provision inspection or special arbitrators, shall be conducted under substantially the same form of proceedings as regular arbitrations under the rules of the board of trade, and shall be subject to all the provisions of regular arbitrations, except that they shall not be subject to appeal.

SEC. 8. All deliveries of beef or hog product in store, in the absence of special agreement, shall be by the delivery of registered warehouse receipts issued from such warehouses or places only as shall have been declared a regular warehouse for the storage of such property, under the rules of the board of trade, by the board of directors; such places of storage, in all cases, to be under cover, and such as is suitable for the proper preservation of the property. All such deliveries shall be accompanied by a certificate of inspection of the chief inspector of provisions, which certificate shall state the number of packages or the number of pieces, together with their weight, in the lot to which it applies, the place where the same is stored, and the distinguishing marks upon it; also the number of packages or pieces examined, and that the same was found to be in good merchantable condition and of standard quality. In the case of barreled pork, the number of pieces and the weight in each barrel shall be stated; also the date of its packing as indicated by the packer's brand upon the packages. Such certificate shall be dated within five (5) days of such delivery; the required number of days shall include both the day of date and the day of delivery.

SEC. 9. No warehouse receipts for beef or hog product shall be registered except

such as have been issued by or from a warehouse or place of storage declared to be a regular warehouse for the storage of such property by the board of directors of the board of trade; and before any warehouse or storage place shall be declared a regular warehouse for such property the proprietors thereof shall file a bond with the board of trade for such an amount as may be deemed sufficient, and with sureties approved by the board of directors. Such bond shall be made payable to the president of the board or his successors in office, for the use of any person or persons suffering damages by reason of the neglect of duty, fault, or fraud of the proprietor or manager of such warehouse, and such bond may be prosecuted in the name of the president of the board of trade, for the use and benefit of persons aggrieved or damaged by the acts of such warehouse proprietor or manager. such bonds shall be conditioned upon the faithful and honest performance of his

or their duties by the proprietor or manager of his or their warehouses, as defined by the laws of this State, or by the rules of the board of trade not inconsistent therewith.

RULE XXVI.

Sale of provisions.

SECTION 1. All provisions sold in this market, in the absence of special agreement, shall be deemed standard, and the property delivered must comply with the requirements of the regulations of inspection established by the association. And all provisions sent to this market for sale which, upon examination, shall be found to have been manufactured, handled, or packed, in all respects and to all

appearances, in conformity with those rules shall be classed as standard.

SEC. 2. All provisions sold as s'andard shall be cut, selected, and packed in all respects as to quality and condition conformably to the classification of inspection as adopted by the association: and unless otherwise stipulated, on all sales made of any of the grades of provisions as standard the seller shall deliver the parcels of the kind and quality called for by such sale, which any duly appointed inspector of the association has examined and has certified to have been packed according to the classification and is at the time of delivery in good merchantable condition in every respect; or, failing so to deliver, he shall be bound to settle his contract under the provisions of Rule XXIV of the association: Provided, That in all sales specified as for cash the buyer shall not be bound to pay inspection fees unless he orders the inspection of the property.

SEC. 3. Lard, hams, or shoulders may be packed in tierces, either wood or iron bound, or bound partly with both. Provisions from which any gain has been

removed shall not afterward be classed as standard.

"SEC. 4. All hog product to be classed as standard shall comply in all respects with the requirements of the rules of inspection adopted by the board of trade, and if delivered on or after January 1 shall include only such as has been packed on or after the first day of the previous November. and, in the case of barreled pork, shall include only such as has been packed between November 1 and March 1."

SEC. 5. No original weight shall be taken out of any package of provisions which is afterward to be offered for sale by the package without removing the original packer's brand entirely from the head of the package, unless the property be

repacked and so branded by the party repacking.

SEC. 6. Buyers of provisions on contracts, deliverable on the demand of the buyer within a specified time, shall have the right to inspect the same before the day of delivery, provided they send an inspector in time to allow the inspection to be completed before the proposed delivery, but failing to do so the selier shall have the privilege of having the property inspected, the cost to be paid by the

SEC. 7. On sales of provisions deliverable at the pleasure of the seller within a specified time the seller shall have the privilege of delivering at any time during the life of the contract without previous notice to the purchaser by the tender of a registered regular warehouse receipt, together with a certificate of inspection by an inspector of the association (such inspection having been made within the last five days). Such a delivery shall be held to be regular, and the buyer shall receive and pay for the same, together with the fees for inspection. If, however, within the next forty-eight (48) hours the buyer shall produce the certificate of the committee on provision inspection that the property so delivered is not standard, the seller shall immediately receive the property back, paying all accrued expenses, and substitute other property that is standard: *Provided*, That the evidence of the committee on provision inspection, as herein referred to, shall be furnished during the next forty-eight (48) hours, or as soon as said committee can report, they having been called for such examination, and the seller so notified within the next twenty-four (24) hours. On sales deliverable on the demand of the buyer, if such demand be made, if the buyer calls before the expiration of contract, the seller, if he so elect, shall, in the case of pickled meats, have twentyfour (24) hours to prepare the property for delivery, and on bulk or boxed meats, four (4) working days.

Sec. 8. On sales of barreled meats or lard, if more than one brand is tendered the purchaser shall be required to pay such inspection fees only as would be proper

were it all of one brand.

Sec. 9. On sales of provisions as standard, or of a particular packer's brand, in case the property does not ass inspection the buyer shall elect either to take the lot named at contract price, after being regularly inspected at cost of seller, or to

require that some standard lot be substituted, but the buyer shall receive the one

or the other if tendered within a reasonable time.

SEC. 10. In sales of fully cured meats, or to be fully cured and delivered at any specified time, the seller must deliver in good faith, according to contract, the inspector to be the judge, who shall always be informed of the conditions of the contract before proceeding to inspect. Where sales of dry salted meats are made without other specifications, it shall be considered that the sale contemplates meats fully cured, the inspector to be the judge.

SEC. 11. In sales of provisions, when an article is substituted or delivered infe-

rior in quality to the sample exhibited, or which had been passed upon by the inspector as standard, the seller shall be responsible for any damage resulting from such exchange or substitution. All examinations or inspections are to be made within a reasonable time, and proper care of the property is to be taken by the owner or his agent.

SEC. 12. Joints cut from hogs that have been frozen shall not be classed as

standard.

SEC. 13. In case of no specific agreement, the saltage allowed on bulk meats shall be 1 per cent, but should the buyer or seller object the inspector shall sweep as many drafts as he may consider necessary, and the percentage so determined shall be binding on both parties. But from June 1 to November 1 the tare shall be ascertained by washing in cold water with a cloth, in case of no specific agreement to the contrary. One per cent for drainage shall be allowed on pickled meats.

SEC. 14. To determine the tare of lard, the package shall first be weighed gross, the lard then removed, and the empty package subjected to dry heat and drained, the empty package to be then weighed and its weight deducted from the gross The difference so obtained shall be considered the net weight of the lard.

SEC. 15. In case lard in tierces be delivered of a weight more or less than 320 lbs. net per tierce, the shortage or excess shall be settled for at the current market price, but the full number of packages contracted for shall be delivered. In the settlement of contracts for lard, 320 lbs. net shall be taken as the average weight of a tierce.

SEC. 16. Provisions, if desired by the purchaser, must be delivered at cars or on teams, from packing house or store, free of charge. All deliveries of provisions in store shall be free of storage to the buyer for five (5) days, or, if in packing houses, for three (3) days, except when the first day of the month falls on Sunday or a holiday; in which case receipts shall be regular to the buyer, if free of storage, for four days, or, if in packing house two days, from the time the seller signifies his readiness to deliver, and any extra expenses attending the examination of provisions are to be paid by the party ordering the same.

SEC. 17. The standard net weight of meats packed in boxes shall be between 450 and 525 pounds for each box, and in all settlements or deliveries of boxed meats an average of 500 pounds net per box shall be made the basis for settlement, and the excess or shortage from said average shall be settled at the market value of the property delivered at the time of its delivery. But in case of delivery the full number of packages contracted for must be delivered.

Sec. 18. Long clear sides shall not average less than forty-five (45) pounds: short clear sides shall not average less than forty (40) pounds, and short rib sides shall not average less than thirty (30) pounds, and dry salted shoulders shall not average less than twelve (12) pounds, to be standard and regular on delivery, either loose or boxed.

Sec. 19. On an examination by an inspector of dry salted meats, in bulk or for boxing, if over twenty (2)) per cent turns out rejected he shall not be required to

take the lot in that condition.

Sec. 20. A delivery of sweet pickled hams or shoulders shall be considered regular if they average not over two (2) pieces unsound per tierce, and a deduction of twenty-five (25) per cent on the price shall be made on the unsound.

SHIPMENT OF HOG PRODUCTS TO SEABOARD.

The railroad agent, having received the order for delivery, orders a sufficient number of cars sent to the packing house or warehouse. When loaded, a receipt is given by the proper officer of the railroad company in charge of the loading for the number of packages or pieces put on board. This receipt is attached to an invoice accompanied by a list of the individual weights and tares and handed to the buyer. On this receipt a bill of lading in duplicate is issued, giving name of line or lines by which shipped, date of shipment, from whom received, marks or brands, destination, gross weight, and rate of freight per 100 pounds.

Shipments of bacon are usually made by all-rail routes to the seaboard; very

seldom in any other way.

Pork and lard are shipped by lake steamers to Buffalo, and thence by canal to seaboard by rail.

Lard, and sometimes pork, is shipped in quite large quantities by lake steamers to Buffalo, and thence by canal to seaboard. This method, however, is of com-

paratively recent adoption.

The lard, when it reaches the canal, is placed on flat barges, or on the decks of canal boats, covered with an awning, and, in warm weather, frequently sprinkled with water.

Experience shows that these products invariably reach the seaboard in excellent

condition.

On arrival at seabcard, if intended for export, the products are held in the cars or on the boats, and the consignee or the agent of the steamship line with which the contract has been made is notified of their arrival. If a steamer is ready to receive the shipment, it is placed (if in cars) on board of lighters and towed to the steamer's side, or the dock, and loaded.

In case no steamer is ready, the property is sent to a warehouse to await the arrival of the next steamer. It is the custom in the trade with foreign markets to make sales upon a price that covers the cost, freight, and insurance to destination, and orders are usually made on this basis. It is also customary for buyers to state how and by what routes the goods are to be shipped.

As the reimbursement to the seller for export depends on all the conditions being

strictly adhered to, he is very careful to see that they are carried out; and no documentary exchange is complete unless the original and duplicate bills of lading and certificates of insurance and inspection accompany the draft.

The following are the usual forms of inland and foreign bills of lading:

INLAND.

[Form 100 H.1

(N) NATIONAL LINE.

(Through freight line, owned and operated by the Pennsylvania Company. All rail. Via C., St. L. and P. R. R. and Pan Handle route.)

[Cut.] (N) Nat'l Line. 6.000 Marks.

This bill of lading from Chicago, Ills.,

to

The rate of freight through is to be per 100 pounds.

--- per barrel.

No. -.] CHICAGO, ILL., -Received from .

Marked and numbered as in the margin, to be transported by the National Line, and the steamboats, railroad companies, and forwarding lines with which it connects, on the following term and conditions, viz: It being expressly understood and agreed that the National Line reserves the right, in consideration of issuing a through bill

Line reserves the right, in consideration of issuing a through bill of lading and guaranteeing a through rate, to forward said goods by any railroad line between points of shipment and destination. It is further agreed that the rates given on bulk freight are given on the understanding that not less than 24,000 pounds will be loaded in each car, and that such minimum weight may, at the option of this line, be charged for, whether that quantity is placed in the car or not.

It is further agreed that all weight in excess of 30,000 pounds per car will be charged double the rate named in this bill of lading.

It is further agreed that the said National Line, and the statement.

per car will be charged double the rate named in this bill of lading.

It is further agreed that the said National Line, and the steamboats, railroad companies, and forwarding lines with which it connects, and which receive said property, shall not be liable for leakage of oils or any kinds of liquids: breakage of any kind of glass, earthen or queens ware, carboys of acids, or articles packed in glass, stoves and stove furniture, castings, machinery, carriages, furniture, musical instruments of any kind, packages of eggs, or for rust of iron and of iron articles, or for loss or damage by wet, dirt, fire, or loss of weight, or for condition of baling on hay, hemp, or cotton; nor for loss or damage of any kind on any article whose bulk requires it to be carried on open cars; nor for damage to perishable property of any kind occasioned by delays from any cause or by change of weather; nor for loss or damage on any article of property whatever, by fire or other casualty, while in transit or while in depots or places of transshipment, or at depots or landings at point of delivery; nor for loss or damage by fire, collision, or the dangers of navigation while on seus, rivers lakes, or canals. All goods or property under this bill of lading will be subject, at its owner's cost, to necessary cooperage or ballings and is to be transported to the depots of the companies or landings of the steamboats or forwarding lines, at the point receipted to, for delivery.

It is further agreed that unless this bill of lading, properly indorsed, be delivered to the agent of the National Line at destination on or before the arrival there of the hereinabove described property, the said line is authorized to deliver the said property to the consignee, or to the party to whose care it is by this bill of lading consigned; and after such delivery the said line shall be no

longer responsible for or on account of this bill of lading or for or

on account of any assignment or transfer thereof.

It is further agreed that the said National Line and the steamboats, railroads, and forwarding lines with which it connects shall not be held accountable for any damage or deficiency in packages not be held accountable for any damage or deficiency in packages after the same shall have been receipted for in good order by consignees, or their agents, at or by the next carrier, beyond the point to which this bill of lading contracts. Consignees are to pay freight and charges upon the goods or merchandise in lots or parts of lots as they may be delivered to them, and upon the weight as ascertained by the line's scales. The goods transported shall be subject to a lien, and may also be retained for all arrearages of freight due on other goods by the same consignee or owners. It is further stipulated and agreed that in case of any loss, detriment, or damage done to or sustained by any of the property herein receipted for during such transportation, whereby any legal liability or responsibility shall or may be incurred, that company

liability or responsibility shall or may be incurred, that company alone shall be answerable therefor in whose actual custody the same may be at the time of the happening of such loss, detriment, or damage, and the carrier so liable shall have the full benefit of any insurance that may have been effected upon or on account of said goods.

And it is further agreed that the amount of the loss or damage And it is further agreed that the amount of the loss or damage so accruing, so far as itshall fall upon the carriers above described, shall be computed at the value or cost of said goods or property at the place and time of shipment under this bill of lading, except the value of the articles has been agreed upon with the shipper or is determined by the classification upon which the rates are based. It is further agreed that all weights furnished by shippers are subject to correction.

This contract is executed and accomplished, and the liability of This contract is executed and accomplished, and the hability of the companies as common carriers thereunder terminates on the arrival of the goods or property at the station or depot of delivery (and the companies will be liable as warehousemen only thereafter), and unless removed by the consignee from the stations or depots of delivery within twenty-four hours of their said arrival they may be removed and stored by the companies at the owner's expense and risk.

NOTICE—In accepting this bill of lading the shipper or other agent of the owner of the property carried expressly accepts and agrees to all its stipulations, exceptions, and conditions.

FOREIGN.

[Form 743.-Foreign. N. Y.-Special.]

STAR UNION LINE,

Via Pennsylvania Railroad and —— from Chicago to ——

Shipped in apparent good order by ———, the following property, marked or numbered as below (weight, measure, gauge, quality, condition, quantity, brand, contents, and value unknown), weight subject to correction:

	Marks and numbers.	Merchandise.

To be delivered in like good order and condition, unto assigns, upon pay--. or ment in cash of freight due thereon, immediately on landing the property, at the rate of

— cents, American gold, per 100 pounds gross weight, with all charges and average accustomed, without any allowance for credit or discount, one pound sterling being considered equal to four dollars and eighty cents (\$4.80) American gold, under the following terms and con-

ditions, viz:

1. That said Union Line, and its connections, which receive said property, shall not be liable for breakage of packages of eggs, or for rust of iron and of iron articles, or for loss or damage by wet, dirt. fire, or loss of weight, or for condition of baling on hay, hemp, or cotton; nor for loss or damage of any kind on any article whose bulk requires it to be carried on open cars; nor for damage to perishable property of any kind occasioned by delays from any cause or changes

of weather; nor for loss or damage on any article or property whatever, by fire or other casualty, while in transit or while in depots or places of transshipment, or at depots or landings at all points of delivery; nor for loss or damage by fire, collision, or the dangers of navigation while on seas, rivers, lakes, or canals. All goods or property under this bill of lading will be subject, at its owner's cost, to necessary cooperage or baling, and is to be transported to the depots of the companies, or landings of the steamboats or forwarding lines, at the points receipted to for delivery.

2. It is further agreed that said Union Line and its connections shall not be held accountable for any damage or deficiency in packages after the same shall have been receipted for in good order by consignees, or their agents, at or by the next carrier beyond the point to which this bill of lading contracts. Consignees are to pay freight and charges upon the goods or merchandise in lots or parts of lots, as they may be delivered to them.

3. It is further stipulated and agreed that in case of any loss, detriment, or damage done to or sustained by any of the property herein receipted for during such transportation, whereby any legal liability or responsibility shall or may be incurred, that company alone shall be held answerable therefor in whose actual custody the same may be at the time of the happening of such loss, detriment, or damage, and the carrier so liable shall have the full benefit of any insurance that may have been effected upon or on account of said goods.

4. And it is further agreed that the amount of loss or damage so accruing, so far as it shall fall upon the carriers above described, shall be computed at the value or cost of the said goods or property at the place and time of shipment under this bill of lading.

5. And it is further agreed that the carriers shall not be liable for any discrepancy between the mill brands of flour, as stated in the margin hereof, and those actually delivered.

discrepancy between the mill brands of flour, as stated in the margin hereof, and those actually delivered.

6. And it is further agreed that from and after the arrival of said goods at the port of New York, and while said goods remain on the wharf or wharves waiting for further conveyance, the Union Line shall not, nor shall any of its connections—inland or ocean—be liable for delay, nor shall they, or any of them, be liable in respect of said goods otherwise than as warehousemen. It is also agreed that the said Union Line reserves the right not to forward said goods or property by first steamer or steamers, and to ship by any steamship or steamship line other than the one named herein.

7. And it is further agreed that this contract, on the part of the Union Line, is accomplished, and the liability of the Union Line as a common carrier or forwarder thereunder as limited in and by the foregoing terminates, on the delivery of the goods or property to the steamship, her master, agent, or servants, or to the steamship line at port of New York, when the responsibility of the steamship is researching line at port of New York, when the responsibility of the steamship is proved that the above-mentioned property shall be transported from the port of New York to the port of —— by the said steamship or steamship line, with liberty to ship by any other steamship or steamship line, subject to the following exceptions and restrictions, viz: That the carrier shall not be liable for damages arising out of the act of God, public nemies, pirates, robbers, thieves, by land or at sea, barratry of master or mariners, restraint of princes, rulers, or peoples; loss or damage resulting from vermin, rust, sweating, wastage, leakage, breakage, mortality, or from rain, spray, coal or coal dust, insufficiency of strength of packages; inaccuracy, indistinctness, illegibility, obliteration, or omission of marks, numbers, brands, or addresses, or descriptions of goods, injury to wrappers, however caused, or from corruption, frost, decay, s transit of whatsoever nature or kind, nor for damage, loss, or injury arising from the perils or matters above mentioned, and whether such perils or matters arise from the legligence, default, or error in judgment of the pilot, master, mariners, engineers, stevedores, or other persons in the service of the carrier; nor shall the carrier be held accountable for weight, contents, value, length, measure, or quantities or condition of contents, nor for money, documents, gold, silver, bullion, specie, precious metals, jewelry, precious stones, statuary, paintings, or other highly valued goods, or beyond the amount of one hundred pounds sterling for any one package, unless bills of lading are signed therefor and the value therein expressed, and the freight paid accordingly. The carrier is not to be liable for any damage to any goods which are capable of being covered by insurance, nor for any claim notice of which is not given before the removal of the goods, nor for any claims for damage or detention of goods under through bill of lading where the damage is done or detention occurs whilst the goods are not in the possession of the carrier, nor in any case for more than the known or invoiced value of the goods, whichever shall be least. Goods of an inflammable, explosive, or otherwise dangerous character shipped without permission and full disclosure of their nature and contents may be seized and confiscated or destroyed by the carrier, at any time before delivery, without any compensation to the shipper or consignee. In case any part of the within goods can not be found for delivery during the vessel's stay at the port of destination, they are, when found, to be sent back by first steamer, at ship's expense, the steamer not to be held liable for any claim for delay or sea risks. The only condition upon which glass will be carried is that the carrier shall not be held liable for any breakage which may occur from negligence or any other cause whatever. The goods to be taken from alongside by the master and deposited a property.

(On the margin:) Attention of shippers is called to act of Congress of 1851: "Any person or persons shipping oil of vitriol, unslacked lime, inflammable matches, or gunpowder in a ship or vessel taking cargo for divers persons on freight without delivering at the time of shipment a note in writing expressing the nature and character of such merchandise to the master, mate,

or officer or person in charge of the loading of the ship or vessel, shall forfeit to the United States one thousand dollars."

NOTICE.—In accepting this bill of lading the shipper or other agent of the owner of the property carried expressly accepts and agrees to all its stipulations, exceptions, and conditions.

In witness whereof the agent signing for the said railway and steamship companies hath affirmed to —— bills of lading, all of this tenor and date, one of which being accomplished the others to steam will.

others to stand void. Dated in Chicago, Ills., ______, 188-.

Agent severally, but not jointly.

PART III.

III.

EXTENT OF TRICHINIASIS IN AMERICA AND EUROPE.

This subject being in the present attitude of certain foreign governments in regard to American pork products the most important of all the questions that have received our attention, we have given it a very careful consideration. The alleged frequency of trichiniasis in American hogs has been the reason insisted upon by the various countries which have prohibited the importation of such products; for while it is true that other objections have been advanced, particularly in France, none of these have sufficient foundation in fact to stand the test of even a superficial examination. It is, however, not a question of the prevalence of trichiniasis here and its absence in other countries, since this parasite has been found infecting the hogs and other flesh-eating animals in the most widely separated portions of the earth. Dr. Manson examined 225 specimens of Chinese pork and found 2, or nearly 1 per cent, infected. Dr. Wartable has described epidemics near the sources of the Jordan resulting from eating the flesh of the wild boar, and in every European country in which inspections have been made a very considerable proportion of trichinous animals have been discovered.

Certain writers have pretended that the animals of France have never been infected with trichiniasis, 3 but this conclusion seems to have been reached without any investigations. A large proportion of the rats of Paris were long since found to be infected, and in 1879 a serious epidemic of trichiniasis, known as that of Crépy-en-Valois, occurred, in which sixteen persons sickened from eating the

flesh of a native animal.

That trichinæ also exist in America and infest a small proportion of American hogs is a fact that must be admitted, but it is a more difficult matter to compare the frequency of American and European infection than has usually been supposed. American hogs have usually been examined by microscopists who were competent to do the work and who would not overlook a single case, while in Germany there has been an immense number of inspectors employed (18,581 in 1881), many of whom were utterly incompetent. An examination in 1877 showed that many of the microscopes were useless, that glasses used were too dirty to permit the examination, and that some of the inspectors were incapable of detecting the parasite. Even as late as 1881 there were complaints in regard to the incompetency of inspectors, and the continued recurrence of trichiniasis among people from eating inspected meats demonstrates that these complaints were not made without reason. Even the German inspections of American meats can not be taken as a fair comparison with the average of their inspections of indigenous animals, for the reason that our meats are examined in their larger cities and by their most competent inspectors. It is absolutely necessary to bear these facts in mind in considering the figures which are given as representing the results of the microscopic examination of American and European pork.

PROPORTION OF AMERICAN HOGS INFECTED WITH TRICHINIASIS.

The hogs in Dearborn County, Ind., seem to be infected in a larger proportion than anywhere else in the country, or at least were in 1874. Drs. Harding and Robbins examined 245 animals slaughtered near Lawrenceburg, and found

² Lancet, August 4. 1883.

⁷ Loc. cit., XXXVII, p. 345-351.

¹ Imp. Customs Med. Report, Shanghai XXI (1881), p. 26.

J. Chatin, La Trichine et la Trichinose.
 Davaine, Traité des entozoaires, etc., p. 755. ^b Gazette des Hopitaux, February 20, 1879.

⁶ Vierteljahrschrift f. Ger., Med., etc., N. F. XXX, p. 175-181.

that 40, or 16% per cent, contained this parasite. This seems to be far beyond the average, however, even in this center of infection, for Drs. Gatch and Miller examined 200 animals at the same place and found only 13 infected, or 6.5 per

In 1866 Belfield and Atwood are reported to have found 2 per cent of the hogs slaughtered in Chicago infected, and in 1878 an examination of 100 animals at the

same place indicated that 8 per cent contained trichinæ.

From 1879 to 1881, Dr. F. S. Billings, of Boston, examined 8,773 hogs, of which

347, or 4 per cent, were reported as containing trichinæ.

Dr. Deveron, of New Orleans, inspected 5,400 hogs in 1881, of which only 22, or 0.4 per cent, were trichinous. Of these animals, 529 came from St. Louis, and among them were 18 infected ones, being 3.4 per cent; 241 came from Louisville, and two of these, or 0.83 per cent, contained trichine; 484 from unknown parts of the West had but 2 infected, or 0.4 per cent, while the remaining 4,146, mostly from the South, were free from this parasite.

Dr. C. A. Simpson examined 30 hogs at Atlanta, which were mostly from Tennessee, without finding any infected, and Dr. R. W. Steger examined 180 at Nashville, Tenn., all of which were also free. Dr. William Myers examined 330 hogs

at San Antonio, Tex., finding triching in but 2, or 0.6 per cent.3

Dr. H. J. Detiners has examined from August to December, 1883, for the Department of Agriculture, 3,381 at Chicago; of which 80, or 2.4 per cent, were found to be infected. Of this number 1,126 were from unknown districts of the West; 46, or 4.08 per cent, containing trichinæ: 50 were from Michigan, among which 4 contained the parasite; 831 were from Iowa, of which 19, or 2.27 per cent, were infected; 50 were from Dakota, of which 1 was infected; 520 were from Illinois, among which were 7, or 1.85 per cent, containing trichine; 304 were from Wisconsin, with but 2 infected, or 0.66 per cent; 350 came from Nebraska, having but 1 infected, or 0.28 per cent: 100 were from Minnesota, and were free from infection.

In the laboratory of the Department of Agriculture specimens from 300 hogs have recently been examined, and of these 5, or 1.66 per cent, were found to con-

tain this parasite.

We have above the records of the examination of 18,889 hogs from various parts of the United States, of which 517 or 2.7 per cent, contained triching. It is evident from these records that a considerable proportion of the hogs from some sections of the country are trichinous, while those from other sections are practically free from infection. While it may be difficult to outline the triching districts and to trace the infected animals to the farms on which they were raised, it is believed that such a study would do much to clear up the origin of this infliction.

In addition to the inspections detailed above, Drs. Osler and Clement examined at Montreal 1.000 hogs from western Canada, finding 4 infected.4 The French inspectors report the examination of 103.578 pieces of American meat, containing 2,080, or about 2 per cent, infected. The German inspectors, during the year 1880, examined 78,880 pieces of American pork, of which we have record, and found 1,265, or 1.6 per cent, to contain trichinæ, and in 1881 they examined 96,485 pieces,

finding trichinæ in 2,414, or 2.5 per cent.⁶
Taking all the examinations of American pork thus far made, both at home and abroad, and we have a total of 298,782, during which triching were found 6,280

times, being 2.1 per cent, or 1 to 48.

It would seem that this number of pieces, considering the close agreement between the results reached by American microscopists over this limited territory and those obtained by the inspectors of American pork in Europe, perhaps repre-

sents the condition of American pork so far as examined.

In Europe there are some localities where the inspections have shown a greater proportion of infection than the average in the United States. At Stockholm 2,000 hogs contained 58 infected ones, or 2.9 per cent; at Tannefors 300 hogs contained 10 infected ones, or 3.3 per cent, and in 112 Bavarian hams 3 were trichinous, while Dr. Rine, of Linten, reported 4 infected animals in 45, or nearly 9 per cent.8

¹A Report on Trichiniasis as observed in Dearborn County, Ind., in 1874. By George Sutton, M. D., Aurora, Ind.

³Report of American Health Association, vol. 7, p. 136.

³Report of American Health Association, vol. 7, p. 138-145.

⁴An investigation into the Parasite in the Pork Supply of Montreal, 1883, p. 6.

⁵Chatin. La Trichine et la Trichinose, Paris, 1883, p. 217.

⁶H. Eulenberg. Ueber die im Jahre, 1881, auf Trichinen und Finnen untersuchten Schweine. Vierteljahrschrift, f. Ger. Med., etc., 1882.

⁷Warfwinge, Nord. Med. Ark., 1875, VII, 3. No. 18.

⁸Meisener Schwidt's Labrichicher No. 130 p. 118. Overted by Glorier Rep. p. 68.

⁸ Meissner, Schmidt's Jahrbücher, No. 130, p. 118. Quoted by Glazier Rep., p. 68.

In Prussia, where the only really effective inspection is made, the proportion found infected with trichinæ was, in 1876, 1 to 2,000; in 1877, 1 to 2,800; in 1878, 1 to 2,000; in 1879, 1 to 1,632; in 1880, 1 to 1,460; in 1881, 1 to 1,839; in 1882, 1 to 2,056.¹ The number of inspectors in 1882 is placed at 20,140. Several inspectors at Erfurt were removed on account of incapacity, and complaints were made as to the condition of the microscopes. Indeed, it seems that the village barber is usually trusted with the inspection of hogs in the smaller towns and villages, and

that he is required to make but three preparations from each animal.

Frequently, or generally, the specimens for examination are taken from the hams and hard muscles, where the trichinæ are least abundant, instead of from the pillars of the diaphragm and tenderloin, where they are most easily found. Since the great epidemic of trichiniasis in Saxony it seems to be admitted that these inspections are totally inadequate, and in order to make them more efficient the magistrates have awarded sums varying from 15 to 30 marks for each trichinous animal discovered. As a result of the rewards, and possibly of the fear excited by the recent terrible outbreaks of the disease in people, an increased number of infected hogs seems to have been discovered. These facts, as well as the extraordinary number of people recently infected from eating pork which had been inspected, are sufficient to demonstrate that large numbers of trichinous hogs pass the inspectors without being discovered, and that consequently the figures given above are not a correct representation of the proportion of hogs which are infested

with this parasite.

In nearly every country of Europe hogs have been examined and a certain number found to contain trichinæ, but the records do not seem to have been carefully kept; the data are not fully given, and there is reason to doubt the accuracy of the work. It is difficult, therefore, to reach any satisfactory conclusion as to the proportion of infected hogs. We may safely assert, however, that no country can with reason claim that its hogs are free from trichine, while the probability is that European hogs generally are infected in a much larger proportion than is

at present admitted.

In some parts of Europe rats seem to have been examined more carefully than pigs. Thus in Saxony one-half of the rats from flayers contain trichinæ, and 20 per cent of all those caught are similarly infected; in Moravia, 16 out of one lot of 20 rats were infected, 9 of a second lot of 12 were infected, 7 of a third lot of 8 were infected. In Klederling, a suburb of Vienna, 7 out of 47, and at Untermeidling 2 out of 31 were infected.³ In France, where the authorities now deny the existence of trichinæ except as imported, and where one of the reasons for prohibiting American pork is the alleged fear of scattering this parasite over the country, the only outbreak of trichiniasis on record was caused by the flesh of a native hog; and the rats from the ditches and sewers of Paris, examined by Drs. Goujon and Legros, were infected in a very large proportion, one lot of 32 containing 3 with trichinæ, and of 72 rats, 5 were full of these parasites.

EFFECT OF THE CURING PROCESS ON THE TRICHINÆ.

If we admit that about 2 per cent of American hogs contain trichinæ, it becomes a matter of the greatest importance for us to inquire into the condition of the parasite after it has been subjected to the action of salt a sufficient time to enable the pork to be carried from the packing houses in this country to the consumers And here the effect on the consumers is entitled to more weight as a matter of evidence than those scientific experiments which are simply designed to prove the life of the parasite; for the trichinæ may sometimes still be living but not have sufficient vitality to develop and reproduce itself. Such trichinæ would be perfectly harmless, even though the pork were eaten without previous

In France it is said in the report of Academy of Medicine of Paris that 95,000,000 kilograms or 200,000,000 pounds of American pork products had been consumed from 1876 to 1881 without causing a single case of disease. And notwithstanding the fact that large quantities of such pork have been consumed for a number of years, the one outbreak of trichiniasis at Crépy, which was clearly traced to a French hog, is the only instance of the appearance of the disease among people

that is recorded in that country,

¹H. Eulenberg, Vierteljahrschrift f. Ger. Med., 1877 to 1883.

Dispatches of A. A. Sargent, American minister at Berlin, to State Department, dated October 26 and November 12.

Dr. Glazier, Report on Trichinæ and Trichiniasis, Washington, 1881.

J. Chatin, Trichine et Trichinose, p. 153, footnote.

Thèse de Paris, 1866, and Davaine Traité des Entozoaires, p. 755.

In Germany, where it is the habit of the people to eat pork without cooking, trichiniasis among people is common, and it has been very frequently asserted in some quarters that many of these cases were due to American pork. During the recent terrible epidemic at Emersleben and neighboring towns. Dr. Brouardel, of the Paris Academy of Medicine, went to Prussia to investigate the origin and nature of the disease and learn what he could in regard to the healthfulness of American pork. Not only did he find that these particular cases of trichiniasis were due to German hogs, but such eminent and well-known authorities as Professors Virchow and Hertwig, who have charge of the pork inspection at Berlin, asserted most positively that no case of trichiniasis in Germany had ever been clearly traced to American pork, although the people, as is their habit, persist in eating it raw.

The so-called outbreak of trichin asis on board the English reformatory schoolship Cornwall has been much quoted as illustrating the danger of American salted pork; but when closely investigated it proves to be an illustration of jumping at conclusions without evidence, as always seems to have been the case where trichiniasis has been attributed to our meats. This outbreak of disease occurred between September 23 and October 23, 1879, and 43 boys were attacked out of a total of 262 boys and 15 officers on the ship. The idea that the disease was trichitotal of 262 boys and 15 officers on the ship. The idea that the disease was trichiniasis seems to have been an afterthought, for the only examination made was of the body of one of the boys two months after it had been buried. Drs. Powell and Cory thought they found trichinæ in the muscles, and concluded the disease must have originated from the American pork which was used on board the ship; but no examination of this pork appears to have been made, and we are not at all certain that English pork was not used as well. Fortunately, specimens taken from the corpse were submitted for examination to that well-known scientist, Dr. Charlton Bastian, and he pronounced the worms not triching at all, but a hitherto unknown nematoid which he classed with the genus *Pelodera*, calling the species *Pelodera* setigera. Dr. Cobbold, who is one of the very best authorities on this subject, asserts very positively that the worm was the *Pelodera teres*, and had probably invaded the body after death.² As this worm has never been known to exist as a parasite in the hog, the assumption that the disease was produced by eating pork is an entirely gratuitous one, and the further assumption that it was due to the American pork is evidently w.thout the least foundation.3

England has been one of the largest consumers of American bacon, hams, and pork, taking even in 1880 and 1881, when this trade reached its largest proportions abroad, five times as much as either France or Germany. Belgium has also been a large consumer. The Comité consultatif d'hygiène publique de France said in a recent official report that in order to determine the danger from the use of American pork they had recently made new inquiries in England and Belgium. In England they were told that trichiniasis was so completely unknown that it was never mentioned, either in the newspapers, the hospitals, or in teaching medicine. And

this was also the case in Belgium.4

We may conclude therefore, that notwithstanding the enormous quantity of American pork which has been consumed in Europe there is no reliable evidence

that any cases of trichiniasis have ever originated from its use.

We can now consider more intelligently the conflicting testimony in regard to the condition of the trichinæ in American salted meats when they reach Europe. In 1879 it was stated in the German reports that although a very considerable number of examinations had been made at Minden, no living trichinæ had been demonstrated in preparations of American pork. This statement was repeated in 1880 by the same authority. In France Colin and most others who have experimented with the trichinæ of American meats have found them dead and incapable of producing any injurious effects when fed to other animals. It was also found that even slight salting killed all the trichinæ within two months. Colin concludes, therefore, that the danger from eating American pork, considering the time that it must have been in salt before it can reach Europe, is slight or inappreciable. Fourment and Chatin have contested these results, but their opin-

¹P. Brouardel L'Epidemic de trichinose d'Ermesleben. Bul. de l'Acad. de Méd., Paris, 1883, p. 1501.

² Veterinarian, 1884, p. 4.

⁸W. H. Power. Outbreak of Fever proved to be Trichiniasis on Board Reformatory School-ship *Cormwall*. Rep. Med. Off. Local Gov. Bd., 1879. London, 1880.

⁴H. Bouley, Bul. de l'Acad. de Méd., Paris, 1884, p. 33.

⁵ Eulenberg, Vrtljhrscht. f. ger. Med., 1879.

⁶ Loc. cit., 1880.

⁷G. Colin, Comptes Rendus, xcvi (1882), 886-888.

⁶ L. Fourment, Comptes Rendus xeiv (1882), 1211-1213, ⁹ J. Chatin, La Trichine et la Trichinose, Paris, 1883, 164-190.

ions are so extremely radical as to lose much of their force on this account. It is not impossible that in certain very rare cases the capsules containing the trichinæ may have become so dense or so impregnated with lime salts as to protect the parasites for a longer time than usual against the action of the brine; but the complete innocuousness of our pork as demonstrated by its use on so large a scale in England. France. Belgium, and Germany, with no cases of disease clearly traced to it, is the strongest possible evidence of the destruction of the trichine during

the process of curing. Dr. Brouardel, of the Paris Academy of Medicine, who investigated the recent outbreaks in Ermsleben, has furnished new and very important evidence on this point. He learned that the meat of the diseased hog was chopped and mixed with sufficient salt to preserve it, and those who ate of this meat soonest after the killing of the animal were not only more severely affected, but their symptoms appeared in a shorter time. The animal was killed the 12th of September, and of those who partook of this meat on the 13th 33 per cent died, while of those who did not eat of it until the 18th and 19th none died. In fact, there was a very regular gradation in the intensity and fatality of the cases when they were classified according to the number of days which had elapsed between the killing of the according to the number of days which had shaped souther that the parasites were animal and the eating of the meat. It was very evident that the parasites were animal and their vitality and their power to produce disease. M. Colin thought this was due to the effects of the slight salting, and M. Brouardel seemed willing to admit this.

If, then, so marked a result is produced in a single week by the slight salting which this chopped meat received, it is very plain that the high degree of salting to which our packed meats are subjected must be sufficient in the vast majority of cases to completely destroy all trichinæ and to make the meats perfectly safe. question can not be narrowed down for this reason to a comparison of the proportion of animals affected with trichinæ in America and Europe, even if this were actually determined, which is not the case, but it necessarily turns on the healthfulness of the meats of these countries at the time when they are offered for consumption. And when the matter is viewed from this standpoint, the very great superiority of American salted meats over even the inspected German hogs is too apparent to be questioned by unbiased scientific men.

In the latest discussion on this subject in the Paris Academy of Medicine,

M. Proust said:

"The question is not a determination if American meats contain trichinæ, but in what condition these triching are found; if they are alive or dead; if they are injurious or not; in a word, if the consumption of American salted meats is dangerous or not to the public health.

"In this connection I ask permission of the academy to read a passage from a most interesting letter that I received this morning from Dr. Gibert, a health

officer and distinguished sanitarian of Havre:

"In 1881, says M. Gibert, American salted meats entered largely into the food supply of the working class of Havre; but in regard to this it is important to divide the consumers into two classes-

"1. The people buying American salted meat for family consumption, always The inhabitants of the quarters of Eure and cooking it and never eating it raw.

St. François nourished themselves exclusively with it.

"2. The workmen employed in handling the packages of salted meat, who, during fifteen years, continued to eat this meat raw. MM. Bouley and Chatin could easily have seen in their walks on the wharves of Havre workmen breakfasting on a piece of bread and a slice of raw bacon, eating not only the fat but all parts of the meat. Anyone could repeatedly see these workmen day after day, even when at work, eating pieces of raw salt pork without fear.

"It is certain, then, that at Havre, for more than fifteen years, hundreds of workmen consumed salted meats, trichinous as well as not trichinous, and never during this long period of years has a single workman been incommoded by this

"No physician in Havre has seen a disease resembling in the least the Ermsleben disease described by MM. Brouardel and Grancher. Such an assertion

demands some proofs, which it is easy for me to give.

"'I would remark, in the first place, that if the meat consumed raw had affected the health of the workmen employed in such large numbers handling salted meats the directors would have soon discovered the vacancies in the ranks of the workers. After an investigation carefully made by me, and which it is easy to make anew officially, it was found that never had there been a knowledge of such a fact in any of the large importing houses of Havre.

"The workmen, after the arrival of the Paris savants, took pleasure in eating the pieces themselves that were pronounced trichinous, so certain were they of their perfect harmlessness. And neither during the stay of these gentlemen at Havre nor afterwards was there a single case of disease or even a simple indispo-

"In the second place, I would remark that during this period of fifteen years we have had no serious epidemic of typhoid fever. That of 1880-81, the only one at all serious which has occurred in our city, affected the quarters occupied by the well-to-do or rich people, while the quarters where the American meat was consumed suffered very little. There was then no possibility of an error on the part of the physicians, even if such a gross error could have been committed.

"It follows, from the facts that I have just related, that the salting of American pork is sufficient to kill the trichinæ; and if, in addition to this cause of security which has been experimented upon by the workmen of Havre for fifteen years, we add the cooking as it is practiced everywhere in France, the conclusion is forced upon everyone not prejudiced in advance that American salted meats

are absolutely incapable of producing trichinosis in the consumers.' In the same discussion M. Leblanc said:

"The discussion appears to me exhausted. However, I ask permission of the academy to communicate in support of the note of Dr. Gibert the following obser-

It was furnished to me by the principal meat inspector of Paris:

"The veterinarians under his direction examined during six months in 1881 5,000 kilograms (11,000 pounds) of American salted meat per day. Sixty thousand kilograms were seized as trichinous, and a large part was shipped to Eugland. During these six months the employees and draymen of the dealers in salted meats who came to the station of Batignolles ate meat in presence of the inspectors

which was notoriously infected with trichine. Not one of them became sick.

"One of these, M. R., employed by Calman, 11 Rue Bergère, was accustomed to this, and took pleasure in eating the parts of the pork in which the microscope had demonstrated the presence of trichine. To-day, after three years, he is well; more than this, having been received at Beaujon as a patient of our colleague M. Tillaux, for a fractured arm, and having related his bravado, he was the subject of a special examination; his muscular tissue was recognized to be healthy, and no trichinæ could be found in it."1

EFFECT OF COOKING ON TRICHINÆ.

If the trichinæ in American pork are destroyed by the curing process in a time much shorter than is necessary for such meats to be shipped from our packers to any of the consumers in Europe, it may seem superfluous to go into a consideration of the effect of cooking, and yet it is not wholly so. Under certain conditions it would appear that the trichinæ do resist the curing process for a considerable time; and though these conditions occur so seldom that uninspected salted meats are much safer than inspected fresh ones, it is still worth our while to inquire if perfect safety against infection can not be guaranteed where a rea-

sonable degree of cooking is practiced.

There is some conflict of opinion as to the temperature necessary to destroy trichinæ, and yet the results of experiments do not differ so widely. Vallin concluded that a temperature of 54° to 56° C. (129° to 133° F.) kills most of them. and that 60° C. (140° F.) is safe. Fiedler's experiments show that trichinæ are quickly killed at 62.5° C. (144.5° F.). Fjord's investigations show that the interior of a ham weighing 8 pounds reaches 65° C. (149° F.) after boiling two hours and seventeen minutes; one weighing 10 pounds, after three hours and six minutes; one weighing 14% pounds, after four hours and eleven minutes; and one weighing 16 pounds, after four hours and thirty-seven minutes. Vallin found that a ham weighing 12 pounds had an interior temperature of 65° C. after three and a half hours' boiling. These results, therefore, correspond very closely. Hein a found that a 2.2 pound roast reached a temperature in its interior of 69 °C. after one and a half hours. Rupprecht observed that rapidly fried sausage only had an interior temperature of 53.5 C., and was still capable of producing infection. Colin had a steak weighing half a pound boiled for ten minutes, when its appearance on

trale des viandes preparées. Rev. d'hyg. Paris, 1881. III, 177-182.

3C. Hein. Rep. of a case of trichiniasis, with remarks on diagnosis and prophylasis. Mitth. d. ver. d. Aertzte in Nied Pest, 1883.

Bulletin de l'Academy de Médécine, 1884, No. 6 (February 5), pages 241 and 247. ² E. Vallin. De la resistance des trichines à la chaleur et de la temperature cen-

⁴G. Colin. Sur les trichines. Bulletin de l'Acad. de Med., 1881, 243.

cutting was white, without any red points. It still contained living trichinæ, however, which, being fed to a bird, were afterwards found developed in the

intestine.

The indications from these experiments are that while fresh meats may not always be cooked sufficiently to kill trichinæ, salted meats are almost invariably cooked for more than the necessary time. This conclusion seems also to be borne out by the experience of people in all parts of the world. Trichiniasis from cooked meats is an exceedingly rare disease. In the United States, where pork in its various forms is consumed to as large an extent as in any part of the world, and where more than one-fourth of the hog product of the world is eaten, it is seldom, indeed, that we hear of any infection among our native population, because the habit of eating raw meats, particularly when fresh, does not prevail. The few cases which occur from time to time are nearly always among Germans, and are traced to the ingestion of pork in some form which has not been cooked at all.

In this connection Dr. Brouardel brought out a very interesting fact in his investigation of the epidemic at Ermsleben. No cases of disease occurred there except with those who ate the meat raw. The family of Herr Heine, the mayor of Ermsleben, consisting of five persons, consumed some of this same meat in the form of sausage on the 15th of September. The sausage was cut in pieces about 1½ inches in diameter and was cooked by placing in boiling water for only five minutes. Not one of this family suffered in the least degree, but the cook, who ate a small piece of the sausage before it was cooked, contracted the disease. Boiling for so short a time has never heretofore been considered sufficient to destroy this parasite, and yet in this instance it undoubtedly protected the consumers from the infection.

At the session of the Paris Academy of Medicine, January 29, 1884, a report was presented by the special committee appointed to consider (1) the report of M. Brouardel in regard to his mission to Ermsleben, (2) the communication of M. Grancher on the symptoms and pathological anatomy of the epidemic of Ermsleben, and (3) a letter from the minister of commerce asking the advice of the academy in regard to the question of trichiniasis. In this report appear the

following points of interest:

"A considerable invasion of German rats has been noticed of late years after the freezing of the Rhine, and M. Brouardel no longer sees the same species of rats at the morgue that he formerly found there. M. Laboulbene and M. Colin had occasion to observe quite a large number of trichinous rats that had been found in the sewers of Paris. Finally, we are also invaded by the trichinæ which penetrate France with the German hogs, which are infected in the proportion of 1 to 1,000 to 1 to 2,000.

"Without doubt we do not know precisely, scientifically, the degree of activity of the trichine according to the time that they have been encysted in American meats, their vigor, the condition of the meat, and the stage of the curing—desid-

erata which future experiments can alone supply.

"The same ignorance exists in regard to our own hogs. Are any of them trichinous? If so, what proportion? What is the condition of those in the suburban zone surrounding Paris which, nourished like the sewer rats, may be trichinous

like them?

"It remains for us to speak of the action of American salted meats in the production of the epidemics of trichiniasis in Germany which have been observed at Dusseldorf, Rostock, and Bremen, but our information in this respect is entirely insufficient, and according to the indications that M. Brouardel has already presented to the academy the exotic origin of these epidemics is denied by several of the principal German savans. and particularly by M. Virchow. Our Government might address the German Empire in regard to this in order to have official documents; but the results of such an inquiry have for us, from the standpoint now under discussion, an almost secondary importance. If in fact we, like the English and the Belgians, have been free from epidemics of trichiniasis, although we received salted trichinous meats and even fresh or slightly salted pork of German origin more dangerous than that which comes from Chicago or Cincinnati, since it had only to cross the Rhine and the Vosges, this is because our culinary habits are entirely different. Let us remark also that in America it is above all the Germany who are affected with trichiniasis—an additional proof of the effect of culinary habits.

"But already we can conclude from the developments which precede that no case of trichiniasis having been noticed either in France or in England from the consumption of American salted pork, the importation of these meats may be authorized in France. This decision has been reached by the commission by a

vote of 5 to 1."

At the same session of the academy M. Lunier presented the following table. showing the importation of salt pork products for eight years in kilograms:

Year.	United States.	England.	Germany.	Other countries.	Total.
1876	3, 269, 960 12, 462, 078 28, 102, 290 31, 784, 913 34, 246, 195 17, 123, 767 4, 611 52, 396	1, 875, 736 1, 889, 905 1, 454, 884 1, 107, 191 1, 253, 228 686, 525 1, 109, 870	702,530 994,234 921,167 1,039,673 846,174 723,465 1,055,783 1,136,793	1,047,920 1,078,505 1,314,437 1,742,854 2,387,671 1,182,474 1,074,259 2,091,770	7,896,146 16,424,722 31,792,778 35,675,131 38,713,268 19,716,231 3,244,523 3,274,966

"It follows from this table that the importation of American salted meats, which had augmented rapidly from 1876 to 1880, began to diminish in 1881, after the decree of February 18, 1881, which prohibited the importation of salted meats from the United States into all the French territory. The 1.611 kilograms which appear in the year 1882 came from a stock taken from the warehouses December 31, 1882. The 52,396 kilograms of 1883 were introduced after the promulgation of the decree of November 27, 1883, which removed the interdiction."

The same gentleman presented the following table, which shows the number of live hogs imported into France in the years 1877 and 1882, and the countries from

which they came:

Countries.	1877.	1882.
Germany Belgium Spain Italy Switzerland Other countries	57, 806 4, 234 66, 366 964	16, 165 68, 716 2, 204 9, 567 1, 586 913
Total	146, 294	99,148

In this connection he remarked, "It is, then, to-day, Belgium and Germany which furnish us the greatest number of living hogs. Is it not from this direction that there is reason to fear the invasion of trichinæ and trichiniasis?"1

TRICHINIASIS IN AMERICA AND EUROPE.

The number of cases of trichiniasis occurring among people in the United States is actually very small. The records of these have not been brought together in a thorough manner, but, as far as we have been able to ascertain, the disease has never occurred in more than three or four localities in a single year, and during the last twenty years there does not appear to have been more than thirty different outbreaks. In none of these outbreaks have a sufficient number of people been attacked to allow of the term epidemic being applied to them in any proper sense of the word. Usually but two to four people have been affected at a time, and never, so far as we have been able to learn, more than ten. All have resulted from eating raw or very imperfectly cooked meat. and in very few of the instances had the pork undergone any preliminary curing. Some of the cases reported as trichiniasis were never demonstrated to be this disease, but seem to have been the result of poisoning by meat which had been preserved without sufficient salting until it had undergone partial decomposition.

It has long been known that extremely virulent poisons are produced during putrefaction of flesh, and the effects of these have been observed so often in Germany when sausages were eaten that they have received the special name of wurstgift or sausage poison. This does not seem to be understood by many American physicians, and so nearly every case of sickness arising from the consumption of the raw or imperfectly cooked flesh of hogs in the various forms in which it is preserved is reported as trichiniasis. So that while it may be true that some cases have not been reported or brought to our notice, it is equally true that not

all the cases reported as trichiniasis were really due to trichinæ.

In the debate which occurred in the French Senate June 20, 1882, M. Festelin referred to seven epidemics produced by American pork.\(^1\) One of these so-called epidemics consisted of a single case of the disease which occurred in New York. Another was the disease on the English ship Cornwall, which was at first supposed to be typhoid fever, and was only decided to be trichiniasis when a body was exhumed two months after burial and worms, which the examining physician took to be trichinae, were found in the muscles. But we have it on the very best authority that these worms were not trichinae, and there is no evidence even that they caused the disease. The most probable theory is that they gained access to the body after burial. No trichinae or other parasites were found in the American

Manther epidemic he referred to as having occurred at Bremen, in which 40 persons became diseased from eating an American ham. M. Chatin has mentioned this outbreak again and again and insists that it is a demonstration of the dangerous character of American meats. The charge was so serious that it has been investigated as carefully as possible. M. Testelin does not give the authority who is responsible for this statement, nor does he so much as say in what year the outbreak occurred. M. Chatin is more definite, however, and says the disease was observed in 1875. He refers to the Traite d'hygiéne publique et privée, by Pronst, published in 1877, as his authority for asserting that 40 persons were affected at this place as the result of eating an American ham. By consulting the yearly health report of Bremen for 1875 we find that no cases of trichiniasis in man are recorded during that year. There is simply a statement that two trichinous hogs (native animals) were discovered near Bremen. The outbreak of trichiniasis referred to by Testelin and Chatin seems to have been one that occurred at Hastedt, near Bremen, in 1874, during which 42 persons suffered, but all recovered. The epidemic was first announced August 15, and was caused by eating the flesh of a hog that was slaughtered July 31. The diagnosis was confirmed by microscopic examination of a piece of muscle from one of the sufferers. There had been a habit here, as in most other parts of Germany, of attributing all cases of this disease to American pork without investigation, and this may have been the origin of the story so industriously circulated by M. Chatin. At all events this is the only extensive epidemic of trichiniasis which is recorded as occurring at or in the vicinity of Bremen from 1873 to 1877, inclusive, and there is no question but that this was caused by a native animal.

One of the other epidemics referred to occurred in Madrid, and another in Liege, in Belgium. It is doubtful if, in either case, the trouble was traced to our pork;

but no facts in regard to them have yet been obtained.

M. Chatin, in his recent work on trichinæ and trichiniasis, states that "such is actually the frequency of trichiniasis in the United States that the newspapers consider themselves happy if they have but a few deaths to record each week." Whether anyone in France believes this remarkable exaggeration may be considered questionable, but still it is seriously advanced by a scientific man as a reason for prohibiting our pork. Those who see the American papers know very well that not only weeks but months elapse when no deaths are recorded from this cause. And if it were not for our foreign population, who have brought with them their dangerous habits of eating uncooked pork, America would be as free

from trichiniasis among her people to-day as is France.

When we examine the records of Germany, however, we find that, in spite of the small proportion of infected hogs which they admit, in spite of the inspection, there occur a very large number of cases of this disease. In 1877 there were 16 in Königsberg, 1 in Potsdam, 6 in Berlin, 98 in Stettin, 1 in Oppelu, 61 in Merseberg, and 52 in Minden. In 1878 there were 27 in Königsberg, 8 in Marienwerder, 102 in Potsdam, 50 in Stettin, and 30 in Merseberg. In 1879 there were 55 cases in Königsberg, 93 in Frankfort-on-the-Oder, 82 in Berlin, 7 in Marienwerder, 3 in Schleswig, 60 in Erfurt, 7 in Merseberg, and several in at least three other places. In 1880 there were 149 in Merseberg, 83 in Erfurt, 49 in Frankfort-on-the-Oder, 3 in Marienwerder, 29 in Königsberg, and 16 in Berlin. In 1881 there were 3 in Marienwerder, 15 in Berlin, 10 in Frankfort-on-the-Oder, an indefinite number in Posen, 4 in Stettin, 148 in Merseberg, and 58 in Erfurt. In 1882 there were 3 cases in Berlin, 60 in Cologne, 4 in Merseberg, 4 in Heiligenstadt, and several in Posen, 4 In 1883 the remarkable epidemic in Saxony occurred from eating pork which had been slaughtered and inspected in the town of Ermsleben. In Ermsleben 257 per-

¹Chatin, La Trichinee, etc., p. 210. ²Chatin, La Trichine, etc., p. 165.

² Dritter Jahresbericht über den öff. Gesundheitszustand, etc., in Bremen, in Jahre 1874.

⁴Eulenberg, Vrtljrscht. f. ger. Med. N. F., XXVIII-XXXVII.

sons contracted the disease, and 50 died.1 In Deesdorf there were 40 cases and 9 or 10 deaths; in Nieuhagen, 80 cases and 1 death. There were a number of other epidemics during the year, the statistics of which have not yet been published, but we have already recounted sufficient to show that trichiniasis is incomparably

more frequent in Germany than in America.

Indeed, for the seven years from 1877 to 1883, inclusive, the very incomplete statistics given above show that 1,835 people contracted the disease, being an average of 262 cases per annum. When in addition to this we consider that the United States is really the greatest pork-eating nation in the world, that we consume more than four times as many hogs as are raised in Prussia, that a considerable portion of our population consists of Germans who retain their habit of eating raw pork, the wonder is, not that we have a half dozen or a dozen cases of trichiniasis in a year, but that we do not have many times this number; and we see no way of explaining the comparative immunity which our people enjoy except by the conclusion that our pork, even when fresh, is not so much more dangerous than the German article, as the results of microscopic examinations thus far published would lead one to suppose.

REPORTS OF BOARDS OF HEALTH.

The commissioners prepared and forwarded copies of the following circular

letter to the various State and city boards of health:

"With a view to ascertaining the extent to which trichiniasis prevails in the United States, the following questions have been formulated, to be addressed to the secretaries of the various State and city boards of health.

"As it is desirable that the report of the commission should be presented to Con-

gress at once, the undersigned would beg as speedy a response as possible.

"1. How many cases of trichiniasis have come to the knowledge of your board? Please give dates as far as practicable.

"2. In how many cases was there a microscopic identification of the trichinæ in the human subject and in the suspected meat?

"How many of the cases were fatal?"

Responses have been received from 39 of these boards. Of this number 22 give negative replies. They were as follows: Alabama, Arkansas, California, Delaware, District of Columbia. Kentucky. Louisiana, Mary and. Minnesota, Missouri, Albany (N. Y.), Ohio, Pennsylvania. Rhode Island, Tennessee, and Virginia.

The secretary of the State board of Alabama says that no case has ever occurred

in that State, though infected meat has been reported.

The secretary of the health department of Maryland says that after an examination of the records from January 1, 1834, to December 31, 1883, covering a period of fifty years, he finds no cases of trichiniasis reported.

The health officer of Cleveland, Ohio, says that in 1872-73 there were some cases of trichiniasis reported in that city, but no definite record of them can be found.

CASES OF TRICHINIASIS REPORTED.

Cases of trichiniasis are reported by the following boards, viz.

Connecticut.—Three in 1882; all from the same pork and at the same time. The suspected meat was examined by Mr. C. W. Chamberlain, of Hartford, secretary of the board, and others. No deaths resulted.

Relinois.—The registrar of vital statistics for the city of Chicago says:

"Three deaths from trichiniasis have occurred in this city within the last ten years. Two of these occurred in December, 1880, and the last one in January, 1892. There was a microscopic identification in the two first cases and, probably, also in the last."

The secretary of the State board of health says:

"Between 1866 and 1881 there had been seven outbreaks of trichiniasis in Illinois, resulting in 11 deaths out of some 70 or 80 cases. Since 1881 there have been 2 deaths in Chicago; three outbreaks, resulting in 3 deaths, and some 25 or 30 cases in 1883, and 1 in Fulton County in 1884. details of which have not yet been received. In 9 of the fatal cases the disease was identified by microscopic examination of the human subject, and of the suspected meat in all cases."

Iowa.—The secretary of the State board of health reports at follows:

"Since 1880, in compiling deaths, I have found 3 recorded as from trichiniasis; in 1880, 2 in Adams county, probably genuine cases: in 1881, 1 in Butler County, a very doubtful case. None of the cases were identified by microscopic examinations."

Massachusetts.—The health officer for the State board of health for Massachusetts says:

"The number of cases of trichiniasis that have come to the knowledge of the

board are as follows:

Cases,
In Saxonville, Mass., February, 18703
In Lowell, Mass., March, 1870
In Framingham, Mass., December, 1872
In Becket, Mass., May, 1873
In Wakefield, Mass., March, 1880
Total number of cases19

"One death occurred in the outbreak at Saxonville.

"Identification of trichinæ was made in the fatal case at Saxonville by postmortem. In the Lowell cases triching were identified in the pork, as also in the Framingham cases. In the seven remaining cases at Becket and Wakefield the evidence was symptomatic and by exclusion, i, e., members of families who had not partaken of uncooked pork were exempt from infection. The evidence, however, was satisfactory to the board."

Michigan.—The secretary of the State board of health of Michigan gives the following detailed report of ten outbreaks of trichiniasis in that State since Decem-

ber, 1866:
"1. A fatal case of trichiniasis occurred in Detroit, Mich., in December, 1866. Upon post-mortem examination large numbers of trichinæ were found in the abdomen and a lesser number in the muscles of the leg. (Dr. Herman Kiefer.)
"2. Five cases occurred in Port Huron, Mich., in January, 1874, with two deaths.

The cases occurred in one family, and were caused by eating salted smoked ham.

(Reported by Dr. M. Northup, Port Huron, Mich.)

"3. Several cases of trichiniasis occurred near Flint, Mich., in the fall of the year 1875. Cases also occurred there in June, 1876. In the last outbreak, at least, trichinæ were found by microscopic examination in the meat and also in a particle of muscle of the leg of one of the patients. (The cases were in the practice of Dr. A. B. Chapin, of Flint, Mich., now of Detroit.)

"4. Five cases occurred in Otsego Township, Allegan County, Mich., in February, 1877. All recovered. All were in one family, the members of which had eaten raw ham. Members of another family ate a small quantity of the meat, and were also sick, but recovered without medical attendance. Trichinæ were found

in the meat by microscopic inspection.

"5. Three cases, with one death, occurred in the city of Iona, Mich., in 1878, in the family of Mrs. Strunck. The meat was eaten raw. A microscopic examination of the meat was made, and, I believe, trichinæ were also identified in the human subject.

"6. I am informed that cases, and one or more deaths, occurred in the vicinity of Iona, Mich., in the summer of 1880 in the practice of Dr. H. B. Barnes. Trichina were found in the pork and also, I believe, in the muscles of those who died.

"7. Five cases and two deaths occurred in the family of a German named Rumsock in Lansing, Mich., in the last of January, 1881, and the first of February, 1881. The cases were in the practice of Dr. Dolan, of Lansing, who has since died. Great numbers of noncapsuled trichinæ were seen by Dr. George E. Ranney, myself, and others in the muscles of a boy who died. (I still have slides showing the trichinæ as taken from the muscles of a person in the family who died.) Part of the meat was eaten raw. It was not examined for trichinæ; but the hog was sick and was killed to avoid loss of the animal.

"8. Five cases of trichiniasis occurred in Vickeryville, Montcalm County, Mich.,

in December, 1883. All resulted from eating the flesh of one hog. One death occurred. The boy who died had at different times eaten small pieces of pork only occurred. The boy who died had at different times eaten shair pieces of pork only partially cooked by holding them on a fork before the fire. He had also eaten raw on several occasions little bits of sausage made from the flesh of the hog. Two others had eaten the meat cooked, but probably rare done. The other person had eaten raw a little bit of sausage, perhaps half an ounce, but the rest of what he ate was well cooked. Trichinæ in abundance were found in the pork, specimens of which are now in this office. (Reported by Dr. J. Tennant, Carson City, Mich.)

"9. Four cases occurred in January, 1884, in the city of Niles, Mich. One death has occurred and three persons are now seriously sick. The pork contains great numbers of trichinæ, as determined by observations made at Niles, Ann Arbor,

and in this office.

"Further details as to the five cases occurring at Port Huron and also of the

case at Detroit are given in the published report of this board for the year 1875, and of those occurring in Otsego in the report of this board for the year 1877.

"Such answers as I am able to give to the four questions asked by your commission have been summarized from the foregoing particulars, and are given with each question, as follows:

"'Question 1. How many cases of trichiniasis have come to the knowledge of your board? Please give dates as far as practicable.

"Answer 1. I am able, at this time, to send you facts concerning ten outbreaks of trichiniasis occurring in Michigan. In three of these the number of cases was not stated. In seven outbreaks there was a total of twenty-eight cases. dates are given in most instances, in the report accompanying this.

"'Question 2. In how many cases was there a microscopic identification of the

triching in the human subject and in the suspected meat?

"Answer 2. In two outbreaks the observer did not state whether any microscopic examination was made. It is believed that the human muscles were examined in five of the outbreaks, and in each of them triching were found; in three of these it is positively known that trichinæ were found present. In seven outbreaks the pork was examined, and in each of the seven triching were found in the pork. In the other outbreak, micro-copic examination was made only of the muscles of the human subject, in which triching were found.

"'Question 3. How many of the cases were fatal?

""Answer 3. In one outbreak it was stated that there were no fatal cases: in one outbreak, where fatal cases occurred, the number was not stated; in one outbreak it was not stated whether any fatal cases occurred; in another outbreak, now in progress, one death has already occurred; and in six other outbreaks seven deaths were reported; making in all, in which the number was reported, eight deaths."

New Jersey.—The records of the State board of New Jersey extend from January 1, 1875, to date, a period of about nine years. During this period but one death from trichiniasis has been reported. This was in May, 1881, and was a female. The method by which the diagnosis was determined is not known.

New York .- The following report is furnished by the secretary of the board of

health of New York City:

"A few cases of alleged trichiniasis have come to the knowledge of the board,

but there is no record of the number or dates.

"In two families, during the past eighteen years, there has been, within the knowledge of this board, microscopic identification of trichinæ in the human

"During the past ten years five deaths attributed by attending physicians to trichiniasis have been reported to this board, one in 1875, one in 1878, one in 1880,

The secretary of the board of health of Brooklyn, N. Y., says that five cases of trichiniasis have occurred in that city, of which a full history may be found in

the proceedings of the Medical Society of Kings County for 1879.

North Carolina.—The secretary of the State board says that an equivocal case of trichiniasis occurred in Wilmington in that State, but no microscopical exam-It was in the person of a boy of German parentage, habituated ination was made. to using raw ham.

West Virginia.—The health officer of the city of Wheeling reports five cases father, mother, and a child of same aged 21 years, and two females of other families. All ate of same meat-raw, smoked ham-on March 4, 1870. No micro-

scopic identification was made in the human subject.

Wisconsin.-The secretary of the Wisconsin State board of health says that some cases of trichiniasis have occurred in Milwaukee, but does not give the number or dates.

CAUSE AND PREVENTION OF TRICHINÆ IN SWINE,

The worm known as the trichina spiralis has no stage of its existence outside of the animal body, and can not multiply or even remain alive for any considerable time, so far as has ever been ascertained, after it quits its host. Every infected animal must become infected either by eating the muscular tissue of another animal which has previously obtained the parasite in the same way, or possibly by taking food which has been soiled by the excrement of an animal recently infected. is generally admitted that eating flesh which contains the parasite is the most frequent, if not substantially the only way in which trichinæ find their way into the body. A few cases have been advanced to show that pastures and feeding places may be infected and be dangerous for a considerable time; but, according to our present knowledge of the natural history of this parasite, it may be doubted

if many instances of this kind occur.

When meat containing trichinæ is taken into the stomach the capsule or cyst which surrounds the worm is dissolved by the digestive liquids, the parasite is set free, develops into its mature form, the females are impregnated, and each give birth to 1,000 or more young. The young trichinæ penetrate the intestinal walls and find their way into the various muscles of the body while the mature worms, and doubtless many of the young as well, are voided with the excrement. Now, it may be admitted that a large number of the mature parasites will be passed from the bowels before they have brought forth their young, and that if taken into the stomach of another animal the act of reproduction would continue; but it seems doubtful if enough of such mature worms would be consumed in this manner to cause any serious infections. We do not know, however, how long the worms are able to live outside of the body in this developed condition; if they can exist but a few days the danger from them would be very slight, but if this period can be prolonged for weeks or months the danger would be more serious, and we might have at least a partial explanation of the many cases of infection occurring where the condition of life among the hogs seems to be all that could be desired.

The young trichinæ or larvæ which are produced in such enormous numbers in the intestines within a few days after infected meat has been eaten, and many of which are doubtless voided with the excrement, are practically incapable of dangerously infecting grounds or feeding places. These can not reproduce themselves until they have found their way into the muscular system, and have been encysted for a time, so that even a considerable number of such larvæ taken into

the stomach would produce no appreciable effects.

In the present condition of knowledge the tendency is to conclude that by far the larger part of trichinous hogs are infected by eating the flesh of some animal which has previously been infected in the same way. Trichinæ can not develop or live for any considerable time in the bodies of insects, cold-blooded animals, or birds, and, consequently, the infection must result from some of the warm-blooded animals, which either habitually or occasionally eat flesh. Among these cats, cats, rats, and mice are the ones most frequently suspected; but an inquiry into the conditions under which hogs are raised in the West has led us to doubt if the infection could occur in any considerable number of cases in this way. Hogs are usually kept in grass fields, where rats and mice are not common, and where cats certainly do not abound, and in no part of the hog-raising country is it a custom, so far as could be ascertained, to run the hogs in cornfields, where there would be an opportunity of their finding rats and mice.

It has been charged that there was a custom of feeding the hogs which died from disease to the well animals, and that this accounted for the trichinous infection. After an extensive investigation, however, we feel authorized to state that this assertion is not correct. Such a practice seems to have been followed to some extent a half dozen or more years ago, but as the contagious character of hog cholera became better understood, and as the demand increased for the cheap grease rendered from such dead animals, they were more generally sold to rendering establishments at a price considerably beyond what they would be worth for animal food. The trichinæ of to-day must therefore be acquired from some other

source than the hogs which die upon the farms.

The French and German authors have not hesitated to assume that our hogs were infected by feeding upon offal from the slaughterhouses, but this assumption could only have been made in complete ignorance of the actual condition of affairs in the hog-growing sections of the country. Practically all of the hogs which go to the packing houses are raised upon farms miles, and generally hundreds of miles, from any large city where offal could be obtained, and they are never fed upon anything but vegetable food. The blood and offal at the large packing houses is dried at a high temperature and sold for fertilizers, and is never fed to the hogs even in the stock yards. The foreign microscopists have the proof of this in their own hands, if they would only give the matter a little consideration before accepting the absurd statements of ignorant and prejudiced parties.

before accepting the absurd statements of ignorant and prejudiced parties.

During the killing season as many as 60,000 hogs are received at the Chicago stock yards in a single day, and it is evident that it would be impossible to furnish accommodations for holding this enormous number for any considerable time before killing. Now, the trichinæ which are found in American pork are in the vast majority of cases encysted, and for this condition to be reached time is required, and much more time than it is possible to hold hogs in the cities where alone offal for feeding them can be obtained. It is four weeks after infection before cysts are formed, and it is six weeks to two months before they reach the condition in which they are generally found by the microscopic examination of

our meats. While we know from our own observation in all the cities where hogs are packed that the animals are not fed upon offal previous to killing, we have here in the condition of the trichinæ themselves the best and most incontrovertible evidence that the animals were not infected by offal fed while they were held at

the packing houses before slaughter.

It is evident from what has just been said that we are unable at present to give a satisfactory explanation of the manner in which Western hogs become infected with trichine, for the conditions of life, at least so far as we were able to see, appear in the vast majority of cases to be all that can be desired. The infected hogs must be traced to the counties from which they come, and even to the farms on which they are raised, and the conditions studied as they exist on known infected premises before it will be possible to give a solution to this difficult question. And until this is done no effectual rules for prevention can be formulated further than in a general way to recommend that the hogs have no access to any animal matter except what has been thoroughly cooked.

ORIGIN, NATURE, AND EXTENT OF SWINE PLAGUE OR HOG CHOLERA IN THE UNITED STATES AND EUROPE.

All cases of sickness among the hogs of this country, as a rule, are spoken of as cholera, and the deaths from all causes are grouped together in the statistics as the results of this disease. Hogs, however, like other animals, are subject to the various diseases which arise from meteorological conditions, from exposure, from improper food and surroundings, from parasites, and from injuries; but farmers are unable to discriminate between many of these conditions, and therefore all are classed together. There is no doubt that there exists an infectious malady of hogs, which at times is very destructive, and to which the term swine plague can be properly applied, but the statistics as at present compiled give an exaggerated

idea of the ravages of this plague.

The disease known as hog cholera or swine plague appears to have had a comparatively recent origin in this country, and there is no direct evidence to show that it originated, or that it now originates, de novo. On the contrary, hogs were raised in large numbers under conditions substantially the same as now for many years before the appearance of this disease. It was not until some time between 1850 and 1860 that hog cholera, so called, first appeared in the States of North and South Carolina, Georgia, and Alabama, and then it was clearly traced to droves from Kentucky and Tennessee. If we go back a few years earlier we find the malady seems to have been unknown even in the Western States, and consequently there were many years during which our farmers enjoyed an immunity from this the principal infectious disease of the hog. Now, however, that the infection has been widely disseminated over the country there are many outbreaks which can not be traced to their origin, and hence the theory of its spontaneous generation becomes more and more popular with a large class of our population.

It is the old story over again which it seems must be fought out separately for

each of the contagious diseases.

Rinderpest was believed to arise spontaneously on the steppes of Russia until an investigation was made, and then it was found that the originating point drifted farther and farther toward the east, but could never be found. Lung plague for many years was said to occur spontaneously in many countries of Europe, but as more determined efforts were made to exterminate it and to trace the outbreaks to their origin there were fewer and fewer who accepted this belief, until now it has but a handful of adherents in the whole of Europe. Glanders was thought to arise very frequently from badly ventilated stables and overwork, but to-day he who was the most eminent advocate of the theory admits that these conditions are powerless to produce the disease unless the virus has been introduced from an affected animal. And this we believe is also true of swine plague. If it was unknown in America it has existed from time immemorial in the various countries of Europe, and might easily have been introduced with the improved animals brought from there. Indeed, its appearance in this country dates from about the time when the first earnest efforts were being made to improve our hogs by infusing the blood of pure-bred animals from abroad; and the fact that this disease is known in at least one instance in recent years to have been imported in this way is sufficient evidence that the same may have occurred in earlier years.

The fact that hog cholera exists in a country is therefore no evidence that the hogs are improperly fed or cared for; but it rather indicates that the people do not sufficiently appreciate its contagious character, and do not enforce sufficiently stringent measures in regard to it. The investigations made under the direction of the United States Department of Agriculture during the past five years have thoroughly convinced our hog growers that this trouble arises from contagion,

and the precautions which they have observed to prevent the infection of their herds have had an extraordinary effect in lessening the amount of this disease. In fact, the malady has hardly existed in an epizootic form since 1879, and the comparatively few outbreaks which have occurred have been far apart and have not covered any great extent of territory. The ravages of the disease appear to be steadily decreasing, and it is believed that, with the continued observance of the precautions against infection, it will never again assume the importance that

it has in the past.

There seem to be no accurate records of the extent of swine plague or hog cholera in any of the nations of Europe with the exception of Great Britain. That it is frequently very destructive in most parts of the Continent is shown by the veterinary literature and by the recent attempts in France to confer immunity on the hogs by vaccination. In Great Britain a record is now published of the number of animals affected and the number which die, and we learn from this that during the first twenty-one weeks of the year 1883, 3,607 animals were attacked and 731 died. As there are about eighteen times as many hogs in the United States as in Great Britain, this would be equivalent to about 65,000 cases here in the same time, providing our hogs were diseased in the same proportion. It is evident from these figures that the disease is by no means confined to the United States, and if it has caused more discussion here than abroad, this was occasioned by the determination of our farmers to learn some way of preventing its ravages.

The conditions under which our hogs are generally raised are so good that the origin of diseases can not be explained by them. They run upon large grass fields and are fed largely upon indian corn and other vegetable food; and it is difficult to see how any substantial improvement can be made upon this mode of feeding.

to see how any substantial improvement can be made upon this mode of feeding. It has been frequently suggested that our pork would be firmer and of better quality if part of the corn now fed were replaced with pease or similar concentrated food containing a large proportion of nitrogenous constituents. That such a change would have a desirable effect upon the quality of the pork is scarcely to be doubted, for we know that mast-fed hogs, the nuts constituting the food of which contain but a very small proportion of nitrogenous matter, produce soft, oily meat, which shrinks very much more in cooking than corn-fed pork. proportion of the nitrogenous to nonnitrogenous constituents in the nut which forms the food of the mast fed hogs is about 1 to 15, in that of the corn-fed hogs it is about 1 to 8, and if a further change in this direction could be made until the nutritive ratio reached 1 to 6 the quality of the pork would, according to prevailing opinion among scientists, not only be improved, but the hogs would gain more rapidly in weight. Barley is said to make remarkably fine pork, and this is evidence in favor of the view just mentioned, for in this grain the nutritive ratio is While, therefore, it is not necessary to recommend a change in the present manner of feeding on the ground of healthfulness alone, it is probable that a change in the direction suggested above would have a desirable influence on the hardiness of the animals, cause them to lay on flesh more rapidly, and improve the quality of the pork. Whether such a change can be economically made or not is a question which every farmer will have to decide for himself.

RELATION OF SWINE PLAGUE TO HUMAN HEALTH.

While swine plague is a disease apparently common with the hogs of all nations, it has been brought forward, particularly in France, as one of the reasons for rejecting American pork. It has been asserted that the disease was communicable to mankind; that it is caused by a micro-organism, which develops spores, and in that state resists the most unfavorable condition for an indefinite time, and that our pork is dangerous to human health abroad because of infection with

this parasite.

In regard to the first point, there is no evidence that the two or three cases of diphtheria referred to as occurring in the West were produced by the ice from the creek where dead hogs had been thrown, or that this had any connection whatever with the malady affecting the animals. Diphtheria among children has become a very common disease in most parts of the country, and in most parts of the civilized world, in fact, and there was no more reason for concluding that these two or three isolated cases originated from swine plague than there would be in attempting to trace the measles and scarlet fever of the Western States to the same source.

In the second place, the disease is not caused by a bacillus, as was so confidently asserted, but by a micrococcus, which does not form spores, and this organism very soon loses its virulence outside of the living animal body, and is very sensitive to heat and other unfavorable conditions of existence. It is doubtful if this parasite could survive a single day in salted pork, and it is very certain that the

slightest degree of cooking would destroy it, as it is unable to resist a temperature of 140° F. for fifteen minutes.

A review of all the evidence satisfies us that the virus of swine plague is not in the least degree injurious to human health. Both English and American investigators have frequently made post-mortem examinations of hogs dead from this disease, when cuts and abrasions upon their hands were covered with this virus in the most virulent form, and in no case has any discomfort resulted. It would seem that no more severe test could be made of the dangerous qualities of a virus than this, and in connection with the lack of evidence that any disease among people has ever originated from the sick or dead hogs it is sufficient to show the absurdity of such baseless rumors.

Again, it seems to be impossible for the flesh of diseased hogs to enter the market for human food. There are health officers in nearly all stock yards, whose duty it is to see that such animals are not killed for food. The skin and flesh of diseased animals is so discolored that it would be detected at once, either before or after curing; and packers are unanimous in their testimony that the meat of feverish or diseased animals can not be cured without its developing a disagreeable odor, which at once reveals its character. There are, consequently, many substantial reasons for asserting that the fears so vigorously expressed abroad in this connection are groundless, and that the trade inspections which every buyer has the privilege to order to be made by his own experts are sufficient to protect the consumer.

COST AND PRACTICABILITY OF INSPECTION.

Although many objections have been urged against the use of American pork, the only one of these that has sufficient weight to be used as a reason for prohibition is the fact demonstrated by microscopic examination that a small proportion of our hogs contain trichina. The only form of inspection that can remove this cause of complaint and make our meat satisfactory to foreign governments is, therefore, a microscopic inspection of the hogs that are to be packed for shipment to those countries which have placed restrictions upon this trade. This would doubtless be an undertaking of considerable magnitude, considering the large number of animals to be examined; but there is nothing impossible about it. It is simply a question of expense. If the profits in shipping hogs to the countries are sufficient to pay the cost of inspection and leave a balance that will induce the trade, then it would undoubtedly be an advantage to the pork industry to establish such a system of inspection, providing this remains necessary to secure the admission of our pork products.

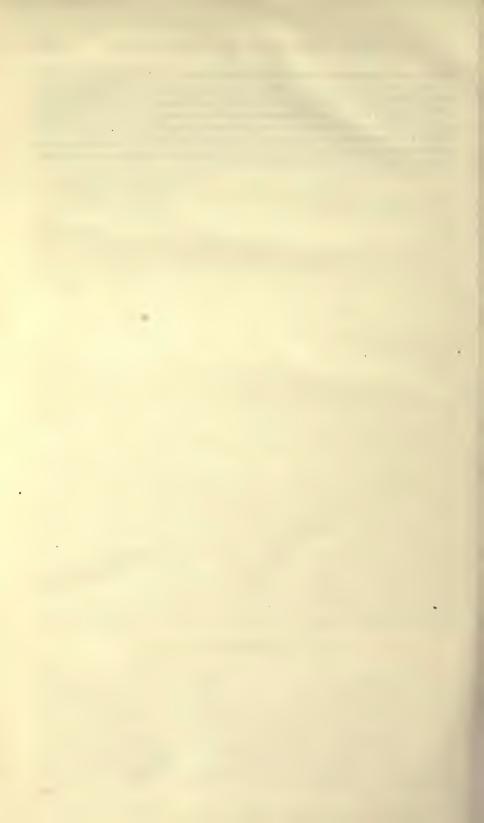
We have already demonstrated that American pork without inspection is safer when it reaches Europe than are the native hogs which have undergone inspection there; and it is our opinion that this fact should be sufficient to secure the free admission of our pork to every part of the world without the expense of a microscopic examination. But if this free admission can not be obtained without such examination, then it would be desirable to consider if a microscopic inspection can be made practicable under the conditions which exist in this country, and particularly at the packing centers. The inspection need cause no delay in any of the processes of packing, since the carcasses in any case should be allowed to hang from twenty-four to forty-eight hours in the cooling room before cutting, and this would be amply sufficient for the inspection. It is probable that certain packers would make special arrangements for packing and shipping to countries that have now prohibited our pork as soon as they were assured that the inspection required by the United States Government could be made at a reasonable sum per head and in guaranteeing the meat free from trichinæ would satisfy foreign governments and restore the trade.

CONCLUSION.

In conclusion, we would say that after carefully studying every circumstance that in any way affects the condition of the American swine, from the hour of their birth to the landing of the cured meat in foreign ports, we are free to say that our exported pork in all its forms is fully equal, perhaps superior, in its freedom from taint of every kind, either from disease or deterioration after slaughtering, to the pork of France or Germany, or any other country in which the hogs are confined within a narrow compass, and do not enjoy that free run and pasturage which they get in the hog-growing regions of the United States. There is no general prevalence of disease among swine in any portion of this country. Microscopic examinations show that here, as in all other countries, a small percentage of the swine is affected with trichiniasis; probably a smaller percentage than in

the countries of Europe. That the occasional presence of trichinæ in our pork is a comparatively unimportant fact is shown by the rarity of trichinasis among human beings, as indicated by the returns from the State and city boards of health. Another very important fact is the almost certain destruction of the trichinæ when present in pork by the curing process before it can be landed in foreign countries. Nevertheless, while we believe that no legitimate grounds exist for the restrictions imposed in some foreign countries on the importation of American pork, we are satisfied that microscopic inspection of all pork for export can be secured at the packing houses, if such inspection should be demanded, as we have already fully explained. Respectfully submitted.

GEO. B. LORING, E. W. BLATCHFORD, C. F. CHANDLER, F. D. CURTIS, D. E. SALMON,



THE PRODUCTION OF SWINE

IN THE

UNITED STATES.

AND THE

TRANSPORTATION, CONSUMPTION, AND EXPORTATION OF HOG PRODUCTS,

WITH SPECIAL REFERENCE TO THE

INTERDICTION OF AMERICAN HOG PRODUCTS

FROM

FRANCE AND GERMANY,

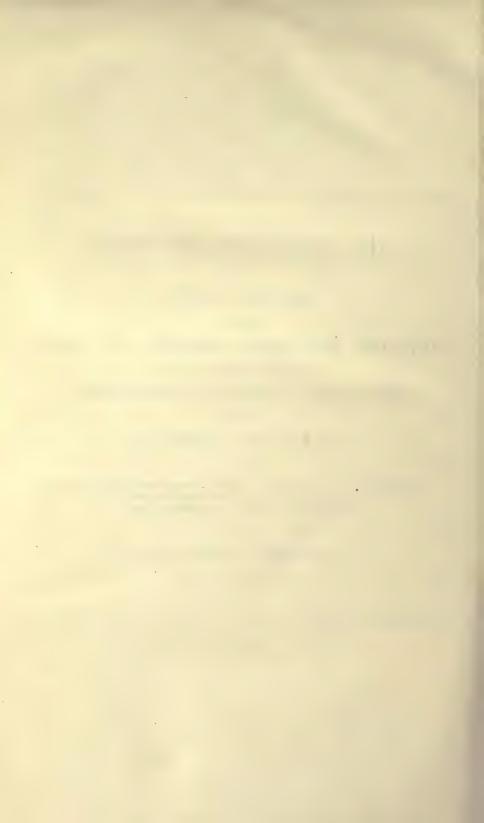
BEING A

SUPPLEMENT TO THE QUARTERLY REPORT OF THE BUREAU OF STATISTICS ON THE FOREIGN COMMERCE OF THE UNITED STATES FOR THE THREE MONTHS ENDED SEPTEMBER 30, 1883,

BY

JOSEPH NIMMO, Jr.,

CHIEF OF BUREAU OF STATISTICS.



REPORT.

TREASURY DEPARTMENT,
Bureau of Statistics, February 12, 1884.

SIR: I have the honor to submit to you the following report in regard to the production of swine in the United States and the transportation, home consumption, and exportation of hog products. This office has for several months been collecting and collating data upon these subjects, with the special object of meeting inquiries from various sources.

The subject of trichinæ and trichinosis has already been investigated and officially reported upon, in a somewhat exhaustive manner, by an officer of the Marine-Hospital Service, a branch of the Treasury Department, in compliance with a resolution of the Senate. The results of this investigation are hereinafter set forth.

The information recently obtained by this office touching the general subject of the present report has been secured chiefly through agencies at the command of this Department, viz, officers of the customs and persons employed as experts in connection with the internal-commerce branch of this Bureau. In view of the fact that the Governments of Germany and France have interdicted the importation of American hog products into those countries, statements are hereunto appended showing somewhat in detail the commerce between the United States and those countries. The scope of the present work has been somewhat enlarged, and it has also been expedited and brought to a close at the present time, in compliance with a communication from the chairman of the Committee on Foreign Affairs of the Senate requesting the Secretary of the Treasury to transmit to that committee all such information at the earliest practicable moment.

Swine are raised in every State of the Union. According to the census, the number of hogs on farms in the United States increased from 25,134,569 in 1870 to

47,681,700 in 1880, an increase of 89.75 per cent.

The net weight of hogs annually slaughtered in the United States is estimated by Mr. J. R. Dodge, statistician of the Department of Agriculture, at 5,250,000,000 pounds,¹ and their value at \$393,750,000. The annual exports of hog products from the United States during the last five years have averaged about 1,000,000,000 pounds, or about 19 per cent of the production.

According to Mr. Charles B. Murray, editor of the Cincinnati Price-Current, a

According to Mr. Charles B. Murray, editor of the Cincinnati Price-Current, a recognized authority upon such matters, the annual pork product of the United States is nearly one-half of the annual pork product of the world. (See Appen-

dix A.)

The United States, however, by far surpasses every other country in the exportation of hog products. The growth of this trade is exhibited in the following table:

Value of the exports of hog products from the United States during each year ended June 30, from 1860 to 1883.

Year ended June 30—	Bacon an	d hams.	as. Pork.		La	Total value.	
1860	Pounds. 25, 844, 610 50, 264, 267 141, 212, 786 218, 243, 609 110, 886, 446 46, 054, 034 37, 588, 930 25, 648, 226	Dollars. 2, 273, 768 4, 848, 339 10, 290, 572 18, 658, 280 12, 323, 327 10, 536, 608 6, 269, 796 3, 291, 176	Pounds. 40,956,680 31,305,810 61,830,910 65,576,075 63,519,400 41,790,990 30,056,788 27,374,877	Dollars. 3, 132, 313 2, 609, 818 3, 980, 153 4, 334, 775 5, 828, 030 6, 850, 808 4, 788, 484 3, 597, 690	Pounds. 40, 289, 519 47, 908, 911 118, 573, 307 155, 336, 596 97, 190, 765 44, 480, 136 30, 110, 451 45, 608, 031	Dollars. 4,545,831 4,729,297 10,004,521 15,755,570 11,260,728 9,134,858 5,970,651 6,634,556	Dollars. 9, 951, 912 12, 187, 454 24, 275, 246 38, 748, 625 29, 412, 085 26, 522, 274 17, 028, 931 13, 523, 477

¹ Mr. Dodge estimates as the equivalent of this 4,725,000,000 pounds of cured meats and lard.

Value of the exports of hog products from the United States, etc.—Continued.

Year ended June 30—	Bacon an	d hams.	Pork. Lard.				Total. value.
1868		Dollars, 5, 476, 988 7, 482, 090 6, 123, 113 8, 125, 683 21, 129, 592 35, 022, 137 33, 383, 908 44, 456 49, 512, 412 51, 752, 068 51, 074, 433 50, 987, 623 61, 101, 205 46, 675, 774 38, 155, 952	Pounds. 28, 680, 133 24, 438, 882 24, 639, 831 39, 250, 750 57, 169, 518 57, 169, 518 56, 152, 331 54, 195, 118 69, 671, 894 71, 899, 255 64, 401, 676 65, 949, 780 107, 285, 086 60, 477, 466 62, 116, 302	Dollars. 3, 267, 652 8, 422, 928 3, 253, 187 4, 302, 320 4, 122, 308 4, 122, 308 5, 607, 035 5, 808, 712 5, 671, 495 5, 744, 024 4, 913, 657 4, 807, 548 8, 272, 285 8, 272, 285 7, 201, 270 6, 192, 268	Pounds, 64, 555, 482 41, 887, 545 55, 898, 590 80, 097, 297 205, 527, 471 166, 869, 393 168, 405, 839 342, 766, 254 325, 658, 688, 688, 688, 687, 769, 286 378, 142, 496 378, 142, 496 250, 367, 740 224, 718, 474	Dollare. 9, 427, 831 7, 443, 948 5, 933, 397 10, 393, 020 20, 127, 619 21, 245, 815 19, 318, 019 22, 224, 248, 525 25, 562, 665 30, 022, 138 25, 562, 665 30, 022, 138 27, 920, 367 85, 223, 575, 5902 26, 618, 048	Dollars. 18, 172, 481 18, 348, 936 15, 349, 647 22, 692, 623 45, 426, 590, 639 57, 184, 630 67, 837, 963 81, 371, 491 86, 697, 858 738, 674 84, 838, 242 104, 960, 905 28, 852, 946 70, 966, 288

It appears that during the year ended June 30, 1881, the year of greatest exportation of hog products, the value of such exports amounted to \$104,660,065, and stood third in the order of magnitude of exports from the United States, being

exceeded only by breadstuffs and cotton.

At this point the fact must be clearly stated that the total exportation of hog products of the various kinds from the United States to foreign countries depends mainly upon the demand for home consumption, as such demand is related to the supply. This demand is the chief factor in the determination of prices. It was mainly the increasing home demand, with its consequent increase of prices in the country, which caused the total exports of bacon, hams, pork, and lard to Great Britain to fall from 704,846,010 pounds in 1880 to 363,357,222 pounds in 1883. Usually exportation falls off as prices in the United States appreciate, and vice versa. The general relation of prices in this country to exports is illustrated very clearly in the following table:

Calendar year —	Average pric	Average price at Chicago of—		
Calcular year—	Mess pork.	Lard.	hams, lard, and pork exported.	
1878	Per barrel.	Per 100 lbs.	Pounds. 1,138,109,904	
1879	9.54	6. 164 7. 401	1, 186, 685, 121	
1881	16.47	10.88	969, 546, 801	
1882	19.42 15.14 ₁	11.47 9.16		
Six months January to June, 1883	18.18± 12.09±			

The high prices which have prevailed for Western hog products during the last four years have been very largely the result of the rapid growth of population in our Western and Northwestern States, with its constantly increasing demand for food.

Without going into any labored dissertation upon the point to which attention has here been directed, the fact will be clearly appreciated from the foregoing data and from subsequent statements that, although the home demand for hog products is the chief element in the determination of prices, yet that the foreign demand for such products constitutes always an exceedingly important element in the profitableness of the raising of swine in the United States, inasmuch as it provides markets for our surplus product. Open foreign markets are of special importance at times when, owing to an unusually large production in the United States or to other causes, prices fall in this country. Foreign markets then serve to prevent a disastrous decline of prices. The recent fall of prices in the United States, and the consequent increased tendency toward the exportation of hog products to for-

eign countries, renders that trade a subject of great public interest at the present

As hereinafter shown, the exportation of hog products to foreign countries is of especial importance to the Western and Northwestern States of this country, and to the commercial and industral interests which are connected with the pork trade in that section of the country.

The following table, compiled from data supplied by the Department of Agriculture, gives the number and value of the hogs on farms in each State and Ter-

ritory in the year 1882, in the order of the magnitude of value:

Table showing the estimated number and value of hogs on farms in the United States during the year 1882, stated in the order of magnitude of value.

[From Special Report No. 56, Department of Agriculture.]

Order.	State.	Number of hogs.	Value of hogs on farms.
0 123 4 5 6 7 8 9 10 1112 13 14 15 6 17 18 19 20 122 23 24 25 6 27 28 9 30 33 23 33 44 35 6 37 38 9 40 1	Iowa Illinois Ohio Missouri Indiana Kansas Nebraska Wisconsin Tennessee Kentucky Pennsylvania New York Michigan Texas California Georgia North Carolina Alabama Arkansas Mississippi Virginia Minnesota New Jersey Maryland South Carolina Louisiana West Virginia Mest Jersey Maryland South Carolina Louisiana West Virginia Massachusetts Dakota Territory Oregon Florida Vermont Maine New Hampshire Connecticut Delaware Utah Territory Washington Territory Idaho Territory Idaho Territory New Mexico Territory Idaho Territory New Mexico Territory New Mexico Territory New Mexico Territory New Mexico Territory	5, 107, 445 3, 970, 745 4, 970, 745 4, 970, 745 4, 971, 112 3, 892, 920 2, 724, 383 1, 984, 646 1, 526, 823 1, 162, 228 1, 162, 228 1, 162, 228 1, 162, 238 1, 164, 238 934, 184 1, 963, 189 856, 000 1, 412, 604 1, 311, 821 1, 225, 534 1, 250, 513 1, 070, 269 773, 884 424, 057 214, 688 325, 413 584, 601 1564, 439 404, 406 80, 908 109, 600 168, 954 320, 000 74, 864 71, 416 54, 511 62, 406 46, 740 22, 500 56, 300 23, 600 19, 300 23, 600	farms. \$40, 961, 709 29, 621, 899 21, 902, 884, 286 17, 008, 416 12, 153, 511 11, 343, 443 11, 057, 467 10, 982, 044 9, 802, 309 8, 156, 848 7, 893, 855 7, 773, 692 6, 111, 840 5, 706, 920 5, 444, 057 5, 318, 818 4, 851, 990 4, 334, 589 4, 147, 911 3, 159, 225 2, 737, 272 2, 583, 779 2, 583, 779 2, 587, 168 2, 427, 088 2, 394, 084 11, 157, 793 965, 576 987, 5880, 000 873, 663 847, 708 861, 218 647, 774 364, 572 279, 450 272, 628 259, 600 208, 440 192, 883
42 43 44 45 46	Montana Territory Colorado. Nevada Arizona Territory Wyoming Territory		182, 320 140, 118 136, 800 73, 600 7, 784
	Total	43, 270, 086	291, 951, 221

From this table it appears that the State of Iowa stands first in the raising of swine; Illinois, second; Ohio, third; Missouri, fourth; Indiana, fifth; Kansas, sixth; Nebraska, seventh; Wisconsin, eighth; Tennessee, ninth, and Kentucky, tenth.

The annual hog product of quite a number of the States is less than the quantity of such products consumed therein, and the comparatively small surplus in certain other States is sold in home markets and consumed in this country.

The deficiency of such products in the various States and sections of this country

S. Doc. 231, pt 4—53

is supplied almost entirely by the surplus product of the Western and North-western States.

By means of our unequaled system of internal transportation, pork products are carried from Chicago to New York, a distance of 900 miles, for only about one-third of a cent per pound. The rate from St. Louis to New York is about the same. The average ocean charge from New York to Bremen during the last year was also about one-third of a cent per pound. On direct consignments hog products can be shipped from Chicago or from St. Louis to Bremen for a little more than one-half a cent per pound. The rates from Cincinnati to the seaboard and to Bremen do not differ materially from those above stated from Chicago and St. Louis.

The existence of such facilities of transportation, in connection with the almost unlimited capacity of our Western and Northwestern States for the production of swine, has built up a great industry and a great trade, which are now seriously affected by the action of the Governments of Germany and France in forbidding the importation of American hog products into those countries.

PORK PACKING AT THE WEST.

It is estimated by Mr. Charles B. Murray that 95 per cent of the exports of hog meats, 86 per cent of the exports of lard, and 93 per cent of the total exports of hog products from the United States during recent years have consisted of the surplus products of the States of Chio, Michigan, Indiana, Illinois, Kentucky, Tennessee, Missouri, Kansas, Nebraska, Iowa, Minnesota, and Wisconsin.

Tennessee, Missouri, Kansas. Nebraska, Iowa, Minnesota, and Wisconsin.

The pork packing of the West for commercial purposes is carried on chiefly at the towns and cities mentioned in the following table, which shows the number

of hogs packed at each point during the year ended March 1, 1883:

	No. of hogs.
Chicago, Ill	4, 222, 780
Kansas City, Mo	
St. Louis, Mo	
Cincinnati, Ohio.	507, 316
Milwaukee, Wis	405, 510
Indianapolis, Ind	388, 417
Cedar Rapids, Iowa	. 327, 163
Cleveland, Ohio	218, 885
St. Joseph, Mo	152, 365
Omaha, Nebr	. 151,086
Louisville, Ky	143, 393
Ottumwa, Iowa	
Detroit, Mich.	
Des Moines, Iowa	
Keokuk, Iowa	68,446
All other points	1, 100, 044
Total	9, 342, 999

From this it appears that 45 per cent of the total number of hogs packed in the Western and Northwestern States are packed at Chicago.

[The fact must be carefully observed that the above table and the following tables, showing production, do not include the product of hogs slaughtered on farms and in villages for domestic consumption in the immediate localities where such slaughtering is done, nor, to any great extent, the slaughtering by city butchers for local consumption. The product of the pork packing included in the above table is marketed in all parts of the United States and also in foreign countries.]

The percentage which the exports of hog products from the United States constituted of the whole quantity packed at the West during the last ten years is exhibited in the following tables, compiled by Mr. Charles B. Murray, editor of the

Cincinnati Price-Current:

Exports of pork, bacon, and hams for the years ended October 31, from 1873 to 1883, inclusive, as compared with the Western yearly production.

	М	eats exporte	Production of	Percent-	
Year ended October 31—	Pork.	Bacon and hams.	Total.	meat.	age ex- ported.
1873 1874 1875 1876 1876 1877 1878 1879 1889 1880 1881 1882 1883	Pounds. 63, 865, 821 66, 481, 132 57, 247, 971 57, 888, 184 68, 839, 677 77, 292, 061 93, 324, 250 94, 557, 703 101, 460, 298 69, 711, 127 73, 181, 801	Pounds. 415, 239, 087 332, 449, 497 264, 225, 246 388, 237, 246 444, 123, 016 634, 678, 301 773, 305, 316 778, 291, 729 692, 676, 987 374, 648, 953 407, 099, 371	Pounds. 479, 104, 908 398, 930, 629 321, 473, 217 446, 075, 430 512, 962, 690 711, 940, 362 866, 629, 566 872, 849, 432 794, 137, 285 444, 360, 080 480, 281, 172	Pounds. 968, 021, 941 914, 666, 521 927, 636, 785 991, 556, 881 1, 657, 421, 041 1, 401, 543, 129 1, 578, 584, 510 1, 642, 118, 570 1, 551, 331, 161 1, 184, 421, 921 1, 380, 302, 000	49, 49 43, 61 32, 50 44, 20 48, 51 50, 80 54, 90 53, 15 37, 52 34, 80

N. B.—The exports include products of pork packing in Eastern cities each year.

Exports of lard for each of the following years ended October 31, compared with the Western yearly production.

Year ended October 31—	Lard exported.	Production of lard.	Percent- age ex- ported.
1873	184, 100, 226 167, 579, 377 198, 008, 212 237, 744, 307 345, 693, 527 343, 119, 208 445, 436, 658 355, 001, 686	Pounds, 247, 967, 565 223, 943, 684 226, 195, 822 243, 057, 560 259, 242, 066 365, 143, 000 424, 333, 030 415, 636, 942 400, 976, 439 308, 050, 353 344, 485, 000	94. 73 82. 58 74. 08 81. 40 91. 71 94. 67 80. 86 97. 55 83. 55 77. 88

N. B. The exports include products manufactured in Eastern cities each year.

Exports of pork, bacon, hams, and lard for each year ended October 31, compared with the Western yearly production.

Year ended October 31—	Production of meats and lard.	Total production exported.	Percent- age ex- ported.
1873	Pounds. 1, 215, 989, 506 1, 137, 610, 205 1, 153, 882, 607 1, 234, 614, 441 1, 316, 663, 107 1, 766, 686, 129 2, 002, 917, 540 2, 057, 755, 512 1, 952, 907, 600 1, 492, 472, 276	Pounds. 714, 006, 419 583, 030, 855 489, 032, 594 644, 083, 642 750, 706, 997 1, 057, 633, 889 1, 209, 748, 774 1, 278, 286, 090 1, 129, 138, 971 684, 284, 737 753, 517, 782	58. 72 51. 25 42. 38 52. 17 57. 02 59. 87 60. 40 62. 12 57. 84 45. 84

N. B.—The exports include products manufactured in Eastern cities each year.

From these tables it appears that during the year ended October 31, 1880—the year preceding the interdiction of American hog products from France and Germany—the exports of such products from the United States constituted 62.12 per cent of the hog products of the Western and Northwestern States for commercial purposes, and that the exports of pork, bacon, and hams constituted 53.15 per cent of such products of those States.

In view of the foregoing statements, it is evident that the success of the porkpacking business of the West depends mainly upon the foreign trade. Any serious obstruction to this trade must very injuriously affect the agricultural interests of our Western and Northwestern States and the commercial and industrial interests of the several cities which are largely engaged in the pork-packing business. Such obstruction must also in a marked degree affect the trade interests of the cities of New York, Boston. Philadelphia, and Baltimore, which, as shown in Appendix B, are the cities from which hog products are chiefly exported.

Appendixes C, D, E, F, and G show, respectively, the exports of bacon, hams, pork, lard, and total hog products from the United States to each foreign country during the years ended June 30, 1881, 1882, and 1883.

THE INTERDICTION OF AMERICAN PORK PRODUCTS FROM FRANCE AND GERMANY.

The following table shows the value of the exports of bacon, hams, lard, and pork from the United States to France and Germany during the last nineteen years:

Value of bacon, hams, and pork exported to France and to Germany during each year from 1865 to 1883, inclusive.

Warmandad Tana 20	Exported to-		Vernanded Impo 20	Exported to-		
Year ended June 30—	France.	Germany.	Year ended June 30—	France.	Germany.	
1865 1866 1867 1868 1869 1870 1871 1872 1873 1874	\$20, 481 5, 209 139, 188 257, 992 31, 759 7, 142 267, 804 1, 150, 737 1, 982, 604 985, 480	\$67, 106 3, 650 59, 559 89, 391 306, 528 177, 071 221, 862 1, 708, 576 5, 596, 884 3, 071, 738	1875 1876 1877 1877 1878 1878 1879 1880 1881 1882	\$454,717 435,505 2,056,280 4,203,991 3,388,872 3,953,259 4,987,673 468,675 40,100	\$2, 458, 222 2, 053, 137 2, 404, 784 2, 251, 169 2, 103, 903 1, 865, 858 3, 293, 725 432, 426 1, 577, 308	

Appendix H shows the value of the exports of hog products of each kind from the United States to France and Germany during the ten years from 1874 to 1883, inclusive.

The regulations of the Governments of those countries in regard to such products relate exclusively to meats-viz, bacon, hams, salted pork, canned pork, and sau-

sages-and not to lard.

Sausages and canned pork meats are also prohibited from being imported into either France or Germany from the United States, but the quantities or values of these two commodities can not be stated, as in the returns made by customs officers such commodities are included in preserved and canned meats generally. Canned meats of all kinds are packed in large wooden cases, and it is difficult to

ascertain whether their contents are pork or beef.

From the above table it will be seen that the exportation of bacon, hams, and pork to both France and Germany has been a trade of comparatively recent growth. Those engaged in the business at the great centers of the pork trade at the West were cultivating it by improvements in the modes of preparing and packing pork products, in order to meet the demand in those two countries, and its development to much larger proportions was confidently expected. Such expectations appeared to be justified by the fact that the total value of similar exports from the United States to Great Britain amounted during the year ended June 30, 1881, to \$48,319,897.

GERMAN EDICTS IN REGARD TO AMERICAN PORK PRODUCTS.

On the 25th of June, 1880, the German Government issued an edict prohibiting the importation of American salted pork meats into that country. (See Appendix J.) This edict in terms exempted "bacon" and "hams;" but on the 21st of February, 1883, the German Bundesrath adopted a resolution prohibiting the importation of American hog meat of every description into that country. Upon this point, attention is invited to a letter addressed to this office by Messrs. Armour & Co., of Chicago, under date of January 29, 1883. (See Appendix K.)

In a communication addressed to this office by the firm just mentioned, under date of February 2, 1884, it is stated that the exclusion of canned hog products

from Germany is to them a serious cause of complaint.

That pork meats continued to be exported to Germany during the year ended

June 30, 1883, was due to the fact above stated, that until the edict of February 21, 1883, took effect "bacon" and "hams" were admitted at the ports of that country, and also to the fact that American hog products are allowed to be entered at the ports of Hamburg and Bremen for exportation therefrom to foreign countries.

It appears, however, that the German Government favors, or at least permits, the use of American pork and other hog products by German seamen on board of

German vessels trading at her ports.

For a while Hamburg and Bremen, which are free ports, admitted American hog products for consumption in those cities; but more recently they have-reluctantly, it is said—followed the example of the Imperial Government in pursuance of the policy "si omnes consentiunt, ego non dissentio." A copy of the decree of the board of trade and navigation of the city of Hamburg is hereunto appended. (See Appendix L.)

Perhaps the most irritating feature of the restrictive measures adopted by Germany regarding American hog products is the fact that that country forbids the transportation of such products across her territory in transit and in bond to other countries, notwithstanding the fact that abundant provisions exist throughout Europe for the security of merchandise so transported over railroads.

THE FRENCH EDICT IN REGARD TO AMERICAN PORK PRODUCTS.

The French Government, on the 18th of February, 1881, prohibited the importa-

Prior to the interdiction of American hog products from France, that was a valuable and rapidly growing trade. The value of the exports of bacon, hams, and pork from the United States to France increased from \$267,804 in 1871 to \$4.987,673 in 1883. The American merchants and packers engaged in this trade regarded it as one of great promise, but, as stated, it has been utterly broken down.

Aside from the direct results of the action of Germany and France in regard to American hog products, it is believed that the moral effect of such action has worked serious injury to the agricultural interests of the Northwest and the commercial interests of the country, by creating a prejudice against American hog products, thus inducing other countries to take like action. Portugal appears to be among the latest to follow the example of France and Germany in this direction.

TRICHINÆ AND TRICHINOSIS.

Hog products in their various forms and in the different modes by which they are prepared as food by the culinary art, constitute articles of food for persons in all classes and conditions of life. It is a fact generally known that such products are especially suitable for food in the temperate and colder climates, and that the quantity thereof consumed during the summer months is much less than during the remainder of the year. An experience of centuries in many countries has proved pork meats to be a nutritious and sustaining article of food, especially for persons performing vigorous physical labor, and more particularly for those engaged in outdoor employments.

The annual consumption of hog products in the United States amounts to about 4.200,000,000 pounds, or five times the quantity exported to all foreign countries. These products are also largely consumed in Great Britain and in the countries of Continental Europe, but not to the extent of their consumption in the United

Notwithstanding the fact that hog products are to a greater or less extent consumed by almost the entire population of the United States, the instances of deleterious results from their use as articles of food have been very few and isolated, and the evidences appear to be incontrovertible that all the cases of trichinosis which have occurred have been directly traceable to eating uncooked pork meats. There appears to be no authenticated case on record of trichinosis resulting from eating such meats when cooked. Trichinæ are said to be found in the flesh of many of the lower animals, and without any apparent impairment of their health. That these parasitic animalculæ are sometimes found in the hog appears simply to proclaim the fact that such products in an uncooked state are not proper articles of human food. It would appear, however, that this fact ought to be generally understood for other and manifest reasons.

It seems passing strange that canned hog products should be interdicted from any foreign country, for as stated by Messrs. Armour & Co., of Chicago, the most extensive pork packers in the United States, in a communication to this office, such products "are subjected for several hours to a temperature always above boiling point, and in many cases to 240° F., destroying all life beyond peradventure.

It is believed that a careful investigation would reveal the fact that the eating of a number of other staple articles of food causes more sickness and a greater

number of deaths than does the eating of hog products.

Dr. Z. T. Sowers, a physician of large practice in the city of Washington, has stated it as his opinion that more sickness ensues and more deaths occur from eating fish and oysters in bad condition and stale vegetables than from eating unwholesome pork, and this opinion is confirmed by the chief health officer of

New York City.

Attention is invited to a statement by Mr. Sidney D. Maxwell, superintendent of the Cincinnati Chamber of Commerce, and who has for several years been employed as an expert in connection with the internal-commerce branch of this (See Appendix M.) In this statement Mr. Maxwell shows that swine for exportation are raised in this country under circumstances peculiarly favorable to their healthfulness. In regard to trichinæ in hogs, he says: "In this city (Cincinnati), which may be regarded as the home of pork packing in this country, where for well nigh half a century this has been a great industry, and where large quantities are consumed, there does not appear on the records a single well-authenticated case of trichinosis."

The secretary of the Illinois State board of health, in a report made January 18, 1884, says: "As a sanitarian, I regard the danger to human life from trichinæ as practically amounting to nothing, it being so easily prevented by thorough

cooking."

Mr. George H. Morgan, secretary of the St. Louis Merchants' Exchange, and Mr. Charles Randolph, secretary of the Board of Trade of Chicago, both employed as experts in connection with the internal-commerce work of this office, having recently given like testimony as to the wholesomeness of Western hog meats, which, as before stated, constitute almost the entire exports of such meats to foreign countries. Mr. E. H. Walker, statistician of the New York Produce

Exchange, under date of January 18, 1884, gives like tetsimony.

Dr. J. B. Hamilton, Supervising Surgeon-General of the Marine-Hospital Service of the United States, in a letter to this office, under date of February 1, 1884, states that the total number of persons treated by that service during the last ten years was 234,353, and that the total number of deaths of persons under its care was 4,234: but that no case of trichinosis has been reported during that time, nor since the organization of the service, notwithstanding the fact that seamen, the class of

patients treated, subsist largely upon salt pork. (See Appendix T.)

No case of trichinosis has ever been reported in the District of Columbia. (See letter under date of February 2, 1884, from Dr. Smith Townshend, health officer,

Appendix U.)

From information just received from the chief health officers of the cities of Boston. New York, Philadelphia, and Baltimore, it appears that the total number of deaths in those cities during the last five years was 350,072, and that the number of deaths resulting from trichinosis was only 6, viz. 3 in New York and 3 in (See Appendix V.) This fact, in connection with a statement published by Mr. E. H. Walker, superintendent of the New York Produce Exchange, showing that during the last five years there were 14.701,236 live hogs received at the four cities above mentioned, almost all of which were consumed there. would appear to constitute conclusive evidence as to the healthfulness of American hog The chances of injurious results from the eating of pork meats appear to be infinitesimal, and to be limited to the condition of eating raw pork.

The foregoing facts appeal to the common sense of the country, and they can

neither be reinforced nor refuted by microscopic analyses.

It may be remarked, also, in this connection, that in various parts of Germany and France vigorous protests have been made, both by commercial bodies and by prominent individuals, against the interdiction of American pork meats upon the broad ground that no necessity exists for such measures, and that they are opposed to the true interests of the people of those countries. The monthly consular reports published by the Department of State furnish abundant evidence of this

No city or State in this country has as yet, in the exercise of its police powers, attempted to restrain the use of pork meats, nor has any suggestion been raised in any part of the United States as to the need of any such action upon sanitary grounds or for any other reason. A line of policy of which such action might fairly be regarded as an example would paralyze commerce and arrest many important industries. Although in clearly attested cases the disease known as trichinosis may have been traced directly to trichinæ in hogs, yet so few and far between have been those cases, and so clearly has the cause of the sickness which has ensued been traced to eating raw pork meats, that any attempt to restrain the use of hog products as human food would have become a subject of popular derision; for it would have been regarded as in the nature of an attempt to shield the people against their own indiscretion and against the accidents of life. In a word, the people of this country are fully convinced, from an experience long continued and almost universal, that no valid objection can lie against American hog products on account of their supposed unwholesomeness, and it is in the light of this conviction that the interdiction of such products from foreign ports is generally regarded.

The whole subject of the existence of trichinæ in hogs and the disease known as trichinosis has, however, already been fully considered and reported upon by another branch of the Treasury Department, with special reference to the grounds upon which the Governments of Germany and of France have excluded American

hog products from those countries.

In compliance with a resolution of the Senate, the Secretary of the Treasury, on the 15th of December, 1880, transmitted to the President of the Senate a report on trichine and trichinosis, prepared under the direction of the Supervising Surgeon-General by Asst. Surg. W. C. W. Glazier, of the Marine-Hospital Service. Dr. Glazier's report was the result of an extended and thorough investigation of the literature of the subject. It was the most valuable treatise upon that subject which had appeared. He brought to his task abilities of a high order and

attainments which give him distinction as a scientist.

He made such analyses as were necessary in order to determine the nature of the parasite known as trichina and the pathology and history of the disease known as trichinosis. He clearly proved by his historical researches that the disease had existed in Germany and France even so far back as the year 1830. This was long before it was known in the United States, and before American hog products were imported into France or Germany. Dr. Glazier showed, also, that great doubt exists as to whether the cause of any of the more recent cases of trichinosis in Germany and in France is or is not traceable to the use of American hog products. He stated, generally, that "whatever may be said of the number of trichinosed hogs found in the United States, the epidemics of Germany are almost uniformly traced to the ingestion of freshly killed German pork." He also asserted that the occurrence of trichinosis in Germany has been directly traceable to eating raw pork in its various forms as smoked and salted meat.

The correctness of Dr. Glazier's conclusions is fully attested by the statements of consular officers of the United States in Germany and in France, and those

conclusions are believed to be incontrovertible.

American hog products are largely consumed in the United States at the present time by more than 2,000,000 persons of German birth, and probably by five or six million persons of German birth and parentage. Such products are also consumed in this country by a large number of persons born in France and their immediate descendants, and without injurious results. It seems strange, therefore, that these products should be regarded as unfit articles of food for the people

of Germany and France residing in their own country.

It has been supposed that a considerable quantity of American pork finds its way into France and Germany through the ports of Great Britain. This appears to be a misapprehension, as the total weight of pork products of all kinds exported from the United States to Great Britain during the last three years amounted to 1,580,847,902 pounds, whereas the quantity of pork products of all kinds, both of foreign and colonial production, exported from Great Britain during the years 1880, 1881, and 1882 to France amounted to only 2,456,832 pounds, and the quantity exported to Germany to only 16,997,568 pounds. (See Appendix N.)

TRADE OF THE UNITED STATES WITH FRANCE AND GERMANY.

The interdiction of the importation of American hog products from France and Germany has given rise to inquiries in regard to the general subject of the commerce of the United States with those countries. In order to meet all of such inquiries, and at once, the following statements are presented.

¹Dr. Glazier died of yellow fever at Key West, Fla., December 12, 1880, while there engaged in the discharge of his official duties. In his death the public service lost one of its ablest and most efficient officers, and the profession to which he devoted his life lost one of its brightest ornaments.

TRADE OF THE UNITED STATES WITH FRANCE.

The following statement shows the total value of the commerce of the United States with France during each year from 1867 to 1883, inclusive:

Value of merchandise imported into the United States from France and of merchandise exported from the United States to France.

Domestic		Total ex-		
Domestic. Foreign.		ports.	Imports.	imports and exports.
\$33, \$34, 460 25, \$90, 759 32, 747, 919 45, 053, 266, 442, 263 30, 939, 206 33, 220, 620 42, 326, 187 33, 172, 387 39, 102, 324 44, 908, 343 58, 194, 041 98, 899, 209 88, 194, 100	\$582, 706 526, 232 366, 489 502, 361 170, 345 492, 912 560, 886 638, 124 460, 340 769, 873 1, 041, 575 1, 029, 220 1, 475, 586 1, 173, 835 4, 353, 351	\$34, 417, 166 26, 416, 991 33, 114, 408 45, 556, 247 26, 652, 608 31, 432, 118 33, 781, 506 42, 964, 311 33, 632, 727 89, 792, 702 45, 139, 918 55, 319, 138 89, 669, 637 100, 063, 044 94, 197, 451	\$29, 386, 239 25, 315, 605 30, 284, 531 42, 731, 138 22, 099, 279 43, 140, 156 33, 977, 200 51, 691, 896 59, 773, 148 50, 959, 577 47, 556, 292 43, 378, 870 50, 684, 601 69, 344, 412 69, 806, 375	\$63, 803, 406 51, 782, 596 63, 386, 398 54, 751, 587 74, 572, 274 67, 788, 706 93, 406, 877 90, 782, 275 92, 696, 206 140, 354, 282 109, 407, 455 164, 403, 821
	25, 890, 759 32, 747, 919 45, 053, 886 26, 482, 263 30, 939, 206 33, 220, 620 42, 326, 187 33, 172, 387 39, 022, 329 44, 098, 343 54, 289, 918 88, 194, 041 98, 896, 209	55, 890, 759 32, 747, 919 366, 489 45, 053, 886 502, 361 26, 482, 293 170, 345 30, 939, 206 30, 299, 206 33, 220, 620 560, 886 489, 124 33, 172, 387 769, 873 39, 022, 829 769, 873 44, 098, 343 1, 041, 575 54, 289, 918 1, 029, 220 1, 173, 586 98, 899, 200 1, 173, 885 89, 844, 100 4, 353, 351 47, 401, 923 2, 608, 855	25, 890, 759 32, 747, 919 366, 489 33, 114, 408 45, 053, 886 502, 381 45, 556, 247 26, 482, 263 170, 345 30, 939, 206 492, 912 31, 432, 118 33, 220, 620 560, 886 33, 731, 506 33, 217, 387 36, 123 42, 946, 341 33, 172, 387 460, 340 36, 632, 727 39, 022, 329 769, 873 39, 792, 702 44, 098, 343 1, 041, 575 4, 289, 918 1, 029, 220 55, 319, 138 54, 289, 918 1, 029, 220 55, 319, 138 58, 194, 041 1, 475, 586 89, 689, 209 1, 173, 835 100, 063, 044 89, 844, 100 4, 353, 351 94, 197, 451 47, 401, 923 2, 608, 895 50, 010, 818	25, 890, 759 526, 282 26, 416, 991 25, 315, 605 32, 747, 919 366, 489 33, 114, 408 30, 284, 531 45, 053, 886 502, 381 45, 550, 247 42, 731, 138 26, 482, 263 170, 345 26, 682, 608 28, 099, 279 30, 939, 206 492, 912 31, 432, 118 43, 140, 156 32, 20, 620 560, 886 33, 781, 506 33; 977, 200 42, 326, 187 638, 124 42, 984, 311 51, 601, 598 33, 172, 387 460, 340 33, 632, 727 59, 773, 148 39, 022, 329 769, 873 39, 792, 702 50, 595, 577 54, 289, 918 1, 029, 220 55, 319, 138 47, 556, 592 58, 194, 041 1, 475, 586 89, 689, 627 50, 684, 601 98, 899, 200 1, 173, 835 100, 063, 044 69, 344, 102 47, 401, 923 2, 608, 805 50, 010, 818 88, 876, 606

From the foregoing table it appears that the exports of domestic merchandise from the United States to France fell from \$98,899,209 in 1880 to \$55,965,191 in 1883, a decrease of \$42,934,018, or 43.4 per cent. but that the imports of merchandise into the United States from France rose from \$69,344,412 in 1880 to \$97,989,164

in 1883, an increase of \$28,644,752, or 41.3 per cent.

Attention is invited to Appendix O, which shows in detail the exports of merchandise from the United States to France and the imports of merchandise from France into the United States during the year ended June 30, 1883, distinguishing between merchandise free of duty and dutiable.

The principal articles imported from France were, in the order of magnitude of

value, as follows:

Or- der.	Commodities.	Value.	Free of duty or dutiable.
1 23 4 5 6 7 8 9	Manufactures of silk Wool, and manufactures of Manufactures of cotton Wines, spirits, and cordials Leather, and manufactures of Precious stones Silk, raw Watches, watch movements, and materials Fancy goods	\$22, 054, 666 1 16, 299, 966 8, 787, 412 6, 615, 577 2 6, 238, 050 3, 885, 191 3, 607, 958 2, 166, 588 2, 075, 529	Dutiable. Do. Do. Do. Do. Do. Do. Do. Free. Dutiable. Do.

¹ The value of raw wool included is only \$706,857. ² The value of leather included is \$4,506

The imports of manufactures of silk goods, cotton goods, woolen goods; wines, spirits, and cordials; watches, watch movements, and materials, and fancy goods from France compete with similar manufactures in the United States. According to the report of the secretary of the Silk Association of America for 1883, it appears that the percentage of silk goods manufactured in the United States, as compared with the whole consumption of such goods in the country, increased from 13 per cent in 1860 to 38 per cent in 1880. The total value of the manufactures of wool in the United States during the census year was \$267,252.913; the total value of the manufactures of cotton goods was \$210.950.383; the total value of the manufactures of leather was \$454.969,870, and the total value of the manufactures of watches, watch movements, and materials was \$4,889,509.

Special inquiry has been made in regard to the imports of wine into the United

States from France. The following table shows the imports of wine into the United States from that country during the last ten years:

Quantity and value of wine imported from France into the United States during each year from 1864 to 1883, inclusive.

Year ended June 30-	In ca	In casks.		In bottles.	
1864	5, 891, 720 5, 228, 529 5, 238, 523 4, 123, 561 5, 834, 091 6, 205, 516 6, 216, 064 5, 076, 928 4, 226, 898 4, 226, 898 4, 226, 898 2, 724, 097 2, 294, 775 2, 110, 635 2, 110, 635 1, 942, 379	\$2, 198, 835 367, 518 1, 639, 447 1, 728, 031 1, 201, 712 1, 229, 133 1, 779, 671 1, 726, 408 1, 769, 535 1, 976, 048 1, 870, 781 1, 540, 624 950, 025 951, 055 951, 055 951, 055 951, 055 951, 055 951, 055 951, 055 951, 055 951, 055 951, 055 951, 055 951, 055 951, 055 951, 055 951, 055 951, 055 951, 055 951, 055 951, 058	Dozens. 1 53, 282 1 121, 334 1 105, 070 1 104, 810 262, 74\$ 456, 251 281, 590 321, 298 347, 625 324, 082 307, 617 207, 650 237, 842 224, 648 184, 083 257, 736 286, 995 329, 664 417, 642	\$380, 173 1,162, 457 1,047, 980 1,111, 292 1,791, 803 2,072, 569 1,022,751 1,960, 425 2,088,794 2,109, 244 1,887,119 1,850,561 1,613,417 1,564,921 1,363,697 2,038,857 2,491,085 2,837,708 3,946,239	\$2, 198, 835 727, 591 2, 801, 904 2, 776, 011 2, 313, 004 3, 090, 936 3, 729, 906 4, 044, 842 3, 980, 025 3, 427, 743 2, 800, 586 2, 564, 427 2, 450, 059 2, 311, 464 3, 034, 095 3, 470, 955 3, 963, 877 5, 295, 856

¹ Sparkling wines only.

From this statement it appears that the total quantity of wine imported into the United States from France during the year ended June 30, 1883, amounted to about 3,514,323 gallons, the total value of which was \$5.295,856. According to the estimate of Mr. Charles Loeser, of New York, president of the Wine and Liquor Dealers' Association of the United States, the wine product of this country for the year 1883 amounted to 17,487,000 gallons. About \$3,000,000 were collected from duties on wines imported into the United States from France during the year ended June 30, 1883.

TRADE OF THE UNITED STATES WITH GERMANY.

The following table shows the total value of the commerce of the United States with Germany during each year from 1867 to 1883, inclusive:

Value of merchandise imported into the United States from Germany and of merchandise exported from the United States to Germany.

T7 7 - 3 T 00	Expo	rts.	Total ex-	Townsta	Total
Year ended June 30—	Domestic.	Foreign.	ports.	Imports.	exports.
1867 1868 1869 1870 1871 1871 1872 1873 1874 1875 1876 1876 1877 1878 1878 1888	34, 352, 022 39, 867, 604 60, 124, 410 61, 668, 381 49, 232, 648 49, 161, 752 57, 456, 120 53, 991, 387 56, 164, 394 56, 292, 106 68, 858, 571	\$1, 499, 888 1, 548, 716 958, 321 1, 038, 347 638, 395 766, 294 1, 465, 637 1, 234, 844 1, 238, 397 1, 407, 320 651, 313 818, 458 892, 851 770, 157 1, 329, 681 1, 438, 897 1, 829, 439	\$22, 068, 178 \$1, 190, 322 \$7, 883, 252 42, 288, 877 34, 990, 407 40, 638, 868 61, 590, 047 62, 938, 225 50, 466, 025 50, 629, 072 58, 107, 433 54, 809, 845 57, 057, 245 57, 057, 245 57, 052, 263 70, 188, 252 54, 228, 953 66, 169, 929	\$23, 581, 208 22, 377, 781 25, 087, 987 27, 015, 321 25, 098, 635 46, 243, 748 61, 401, 756 43, 909, 852 40, 247, 712 35, 319, 462 35, 519, 818 52, 211, 237 52, 989, 181 56, 368, 542 57, 377, 728	\$48, 649, 386 53, 568, 083 62, 971, 239 69, 304, 198 60, 084, 042 86, 877, 416 122, 991, 803 106, 908, 077 90, 713, 737 85, 948, 534 90, 616, 798 89, 599, 948 92, 577, 950 123, 177, 433 110, 597, 495 123, 547, 657

Attention is invited to Appendix P. which shows in detail the articles of merchandise exported from the United States to Germany and the imports of merchandise from Germany into the United States during the fiscal year ended June 30, 1883.

The chief articles imported from Germany during the year were, in the order of

magnitude of value, as follows:

Or- der.	Commodities.	Value.	Dutiable or free of duty.
1 2 3 4 5 6	Manufactures of cotton Wool, and manufactures thereof. Manufactures of silk. Iron and steel, and manufactures thereof. Leather, and manufactures thereof Buttons and button materials Fancy goods	\$8,710,077 16,497,999 4,227,109 3,158,973 23,114,981 2,332,090 2,006,684	Dutiable, Do. Do. Do. Do. Do. Do. Do. Do.

¹The value of the wool imported from Germany amounted to only \$8,960, the value of the imports of manufactures of wool from that country having been \$6,489,039.

²The value of leather imported from Germany was \$1,104,909, and the value of manufactures of leather, \$2,010,072.

The imports of all the manufactured commodities mentioned in the foregoing schedule to a greater or less extent came into competition with similar articles manufactured in the United States.

The quantity and value of wine imported from Germany into the United States

during each year from 1864 to 1883, inclusive, is shown in Appendix Q.

Attention is also invited to the following documents, appended hereunto:

(a) The American pork question; a letter addressed to the minister of foreign affairs of France by Leon Chotteau, a citizen of that country. (See Appendix R.) (b) A letter addressed to the Chief of the Bureau of Statistics by Dr. Emmons Clark, secretary of the health department of New York City. (See Appendix X.)

(c) A statement showing the duties imposed by the French and German Govern-

ments upon hog products when imported into those countries. (See Appendix Y.)
(d) A statement by Mr. Charles Randolph. secretary of the Board of Trade
of Chicago, in regard to prices and the exportation of hog products to foreign countries. (See Appendix W.)

I am, sir, very respectfully, yours,

JOSEPH NIMMO, Jr., Chief of Bureau.

Hon. CHARLES J. FOLGER, Secretary of the Treasury.

APPENDIX.

APPENDIX A .- The world's supply of swine.

The following table is taken from the Cincinnati Price-Current, published by Mr. Charles B. Murray, and shows the number of swine reported in the United States in 1883, in the United Kingdom in 1882, and in other countries having 100,000 or more in 1880:

Countries.	Number.	Per cent of total.	Countries.	Number.	Per cent of total.
United States Russia Germany Austro-Hungary France Spain United Kingdom Switzerland Italy British North American Provinces Roumania Portugal	5,801,000 4,352,000 3,940,000 2,000,000 1,564,000	47. 05 11. 23 7. 96 7. 61 6. 31 4. 73 4. 28 2. 18 1. 70 1. 54 . 91 . 78	Belgium Australia Denmark Sweden Holland Argentine Republic New Zealand Greece Cape of Good Hope Norway Total	602,000 567,000 504,000 426,000 352,000 342,000 207,000 180,000 132,010 91,964,000	.65 .62 .55 .46 .38 .37 .23 .20 .14 .11

APPENDIX B.—Value of the exports of hog products from the principal and all other parts of the United States during the years ended June 30, 1881, 1882, and 1883.

D. ede	Year.				
Ports.	1881.	1882.	1883.		
Baltimore, Md Boston and Charlestown, Mass New York, N. Y Philadelphia, Pa Portland and Falmouth, Me Port Huron, Mich. All other ports Total	\$5,910,910 19,042,646 69,558,806 6,034,147 770,919 2,156,530 1,186,107	\$784,468 14,942,708 54,427,578 8,345,754 750,760 2,037,578 1,564,100	\$1,117,261 10,307,310 47,695,921 6,321,269 779,450 3,426,461 1,318,590		

¹ The exports from Port Huron were to Canada.

APPENDIX C.—Value of the exports of domestic bacon from the United States to each one of the principal foreign countries for the years ended June 30, 1881, 1882, and 1883.

		Years.				
Countries.	1881.	1882.	1883.			
Great Britain and Ireland Germany Belgium British North American Possessions Denmark Sweden and Norway	4,583,807 728,201 458,181 457,666	\$38, 318, 699 295, 856 1, 696, 150 704, 987 163, 382	\$26, 845, 784 1, 374, 433 1, 239, 123 938, 364 644, 548 562, 618			
Netherlands Culm British West Indies All other	555, 241 342, 113	236, 969 240, 745 28, 086 439, 728 42, 124, 602	289, 51 284, 20 31, 18 72, 98			

APPENDIX D.—Value of the exports of domestic hams from the United States to each one of the principal foreign countries for the years ended June 30, 1881, 1882, and 1883.

~		Years.				
Countries.	1881.	1882.	1883.			
Great Britain and Ireland Cuba British North American Possessions Germany Porto Rico British West Indies Belgium British Guiana Mexico United States of Colombia Hawaiian Islands Venezuela Haiti Notherlands All other	175, 666 172, 655	\$3,516,799 227,933 248,534 44,024 65,123 85,224 83,472 29,671 21,444 19,654 18,875 25,682 10,006 135,037	\$4, 670, 603 319, 052 268, 553 94, 851 83, 241 79, 856 59, 354 31, 607 29, 597 29, 028 23, 320 27, 734 22, 609 19, 77 108, 692			
Total	7, 544, 224	4, 551, 172	5,873 201			

APPENDIX E.—Value of the exports of domestic pork from the United States to each one of the principal foreign countries for the years ended June 30, 1881, 1882, and 1883.

Constant Constant		Years.	
Countries.	1881.	1882.	1883.
British North American Possessions Great Britain and Ireland British West Indies Haiti British (fulana Porto Rico Dutch Guiana Cuba Germany British Honduras French West Indies United States of Colombia Danish West Indies Miquelon, Langley, etc Central American States All other	\$1, 782, 933 3, 814, 031 592, 799 979, 307 161, 765 197, 224 62, 154 90, 967 108, 218 42, 627 78, 522 23, 23, 37, 100 19, 3442 273, 585	\$2, 302, 915 2, 470, 131 596, 3960 289, 961 211, 460 84, 126 88, 668 92, 546 41, 338 30, 789 34, 570 22, 953 14, 632 14, 632	\$2, 274, 79; 1, 533, 8m 570, 06; 247, 38 206, 52; 117, 87 113, 28 108, 02; 63, 20 56, 58; 49, 68; 49, 68; 40,
Total	8, 272, 285	7, 201, 270	6, 192. 26

APPENDIX F.—Value of the exports of domestic lard from the United States to each one of the principal foreign countries for the years ended June 30, 1881, 1882, and 1883.

		Years.	
Countries.	1881.	1882.	1883.
Great Britain and Ireland Germany France Cuba Belgium British North American Possessions United States of Colombia Denmark Netherlands Brazil Venezuela Porto Rico British West Indies Hayti Mexico French West Indies Peru British Guiana All other	8, 018, 982 5, 567, 030 2, 449, 865 2, 913, 709 682, 028 408, 867 963, 044 900, 986 547, 679 405, 476 250, 486 248, 144 170, 014 132, 597 77, 803 19, 689 61, 690	\$9, 407. 757 6, 255, 827 8, 692, 876 1, 673, 650 2, 398, 716 663, 522 852, 083 751, 416 513, 110 491, 252 416, 662 280, 925 288, 363 151, 398 145, 293 178, 458 137, 595 78, 156 711, 843	\$7, 941, 523 4, 867, 14; 3, 727, 92; 2, 471, 77; 1, 723, 35; 1, 44; 35; 1, 44; 35; 684, 411 521, 877 468, 87; 222, 53; 298, 97; 248, 163, 79; 248, 163, 79; 88, 35; 70, 04; 64, 41; 599, 92; 28, 618, 048;

APPENDIX G.—Value of the exports of hog products from the United States to each one of the principal foreign countries for the years ended June 30, 1881, 1882, and 1883.

G	Years.				
Countries.	1881.	1882.	1883.		
Great Britain and Ireland	\$59, 128, 087 11, 282, 657 4, 284, 044 10, 554, 708 3, 134, 481 7, 860, 483 1, 434, 211 1, 404, 486 561, 719 5, 015, 244	\$53, 713, 386 6, 691, 253 4, 898, 228 4, 168, 551 2, 231, 996 4, 226, 755 915, 608 770, 348 5, 236, 821	\$40, 991, 812 6, 444, 456 5, 929, 612 3, 768, 029 3, 188, 207 3, 035, 422 1, 328, 952 848, 388 507, 276 4, 864, 022		
Total	104.660,065	82, 852, 946	70, 966, 26		

APPENDIX H. -Quantities and values of exports of hog products from the United States to France and Germany during each year from 1874 to 1883, inclusive,

FRANCE.

Year ended	Bacon and hams.		Lard.		Por	rk.	Total.		
June 30—	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	
1874 1875 1876 1877 1878 1879 1880 1881 1882 1883	11,550,574 3,916,811 3,484,772 23,167,236 55,280,429 53,593,720 66,357,041 68,105,887 5,350,311 252,891	\$959, 851 382, 908 412, 114 2, 041, 520 4, 161, 468 3, 248, 214 3, 848, 930 4, 855, 932 445, 719 29, 246	9, 937, 387 6, 437, 958 10, 059, 487 23, 788, 669 50, 465, 990 42, 360, 456 55, 462, 701 61, 908, 551 31, 610, 618 31, 794, 241	\$882, 513 897, 730 1, 346, 504 2, 462, 330 4, 274, 074 2, 877, 630 3, 941, 971 5, 567, 030 3, 699, 876 3, 727, 926	379, 108 724, 075 221, 199 179, 500 599, 969 2, 168, 614 1, 608, 545 1, 896, 969 257, 574 109, 400	\$25, 629 71, 809 23, 391 14, 760 42, 523 140, 658 104, 329 131, 741 22, 956 10, 854	21, 867, 069 11, 078, 844 13, 765, 458 47, 135, 405 106, 346, 388 98, 122, 390 123, 428, 287 131, 911, 407 37, 218, 503 32, 156, 532	\$1,867,993 1,352,447 1,782,009 4,518,610 8,478,065 6,266,502 7,895,230 10,554,703 4,168,551 3,768,026	

GERMANY.

APPENDIX I .- The President of the French Republic on the report of the minister of agriculture and of commerce.

In view of the advice of the consultative committee of public hygiene of France, considering that the introduction into France of salt pork notoriously infected with trichinæ presents great dangers to the public health, decrees:

ARTICLE 1. In all the territory of the French Republic the importation of salt pork coming from the United States of America is forbidden.

ARTICLE 2. The minister of agriculture and of commerce and the minister of finances are charged, each in that which concerns him, with the execution of the present decree, which will be inserted in the Journal Officiel and published in the Bulletin des Lois.

Done at Paris, February 18, 1881.

JULES GRÉVY.

By the President of the Republic:

P. TIRARD,

Minister of Agriculture and Commerce.

J. MAGNIN.

Minister of Finances.

APPENDIX J.—Decree of June 25, 1880, regarding the prohibition of the importation of pork and sausages into Germany from America.

We, William, by the grace of God Emperor of Germany and King of Prussia, etc., decree, in the name of the Empire, the consent of the federal council having been obtained, as follows:

§ 1. The importation of chopped or in a similar manner divided or otherwise prepared pork and of sausages of all kinds from America is prohibited until further notice. This prohibition does not include the importation of hams and bacon.

§ 2. The imperial chancellor is authorized to make exceptions to this prohibition

and to adopt the measures necessary for this purpose.

§ 3. This decree takes effect on the day of its publication.

Witnessed under our high signature and the affixed imperial seal.

Given, Bad Ems, the 25th day of June, 1880.

SEAL. SEAL. PRINCE V. BISMARCK.

APPENDIX K.

CHICAGO, January 29, 1884.

DEAR SIR: We are in receipt of your esteemed favor of the 26th instant with inclosures, and have given them our careful attention. Our experience proves that bacon and hams, as well as pork, are actually excluded from both France and There is not, so far as we know, any restriction on the importation of American lard into France or Germany. As to the French edict referring only to salted meats, we may say the prohibition has to our knowledge been operative against all other forms of hog product (lard excepted) not covered by the expression "salted meats." The term pork as used in the edicts is in our opinion designed to cover more than the commodity known here as "pork," and really includes "bacon" and "hams." Such certainly is the interpretation which those intrusted with the execution of the respective edicts have seen fit to put upon it.

To come to the next point in your letter, we would say that the German prohibition applies equally to Bremen and Hamburg with the rest of the Empire, so far as consumption in these cities is concerned, but it is permitted to ship all hog products to Bremen and Hamburg, provided these ports are used merely as points

of transshipment to other countries.

There is no doubt that the direct effect of the French and German prohibitions was mitigated and at times entirely neutralized by commercial causes, and that the high prices ruling here, as a consequence, presumably, of reduced production of hogs in the United States, encouraged an increased production in the countries excluding our product. It is very difficult, therefore, to state or to show just what loss was inflicted on our trade by the action of France and Germany; but that it has suffered, and materially, too, we have no doubt. Neither do we doubt that the action of these countries has created in some other countries a decided prejudice against American hog products, and has influenced other countries (of which Portugal is the latest example) to imitate their prohibitory policy.

We shall await your report with patience, and shall deem it fortunate if what little information we have been able to impart conduces in your hands to the result which we desire, viz, the final recall of the prohibitory edicts.

Yours, very respectfully,

ARMOUR & Co.

JOSEPH NIMMO, Jr., Esq., Chief of Bureau of Statistics, Washington, D. C.

APPENDIX L.—Edict of the Board of Trade and Navigation of Hamburg respecting the importation of American hog products at that port.

[Notice respecting the prohibition of the import of pigs, pork, bacon, and sausages of American origin.]

The masters of vessels arriving at this port having on board as cargo or provisions pigs, pork, bacon, and sausages of American origin are hereby informed that such import is prohibited, and that goods of that description being of other than American origin are only allowed to be discharged with the permission of the proper authorities (Declarations-Bureau).

Pork and bacon of American origin which are intended for reexport to foreign countries or as provisions for seagoing vessels lying in this harbor may be discharged under the direction and superintendence of the proper authorities (Admin-

istration of the Quay).

The masters, who are also responsible for their crews, are recommended to inform themselves at their arrival here from their agents or brokers as to the strict observation of the directions under which pigs, pork, bacon, and sausages may be landed. For neglecting to do so they incur heavy penalties and the confiscation of the goods discharged without permission.

Hamburg, the 21st of April, 1883.

THE BOARD OF TRADE AND NAVIGATION.

APPENDIX M.—Statement made by Mr. Sidney D. Maxwell, superintendent of the Chamber of Commerce of Cincinnati, to the Chief of the Bureau of Statistics, in regard to the quality of American hog products, in a letter dated January 21, 1884.

The hogs of this country are generally raised under circumstances the most favorable to produce healthy meats. They are almost universally allowed to range at large in the fields and wooded lands, where they have ample air and water. They are fattened from corn, and under the rules of the chamber of commerce of this city only meats from corn-fed hogs are recognized as regular. The circumstances

under which pork is produced are such as to reduce the liability to diseased meats to the minimum. So remote a possibility is this that in this city, which may be regarded as the home of pork packing in this country, where for well-nigh half a century this has been a great industry and where large quantities are consumed, there does not appear on the records a single well-authenticated case of trichinosis. In relation to the hog cholera, it may be remarked that it is well known to hog raisers that cholera usually attacks the young swine, which are not such as are acceptable to our packers, who use the heavy hogs; and where there is an exception to this rule the packers are aware that meats made from diseased hogs will not only not cure properly, but will contaminate good meats; so that if a curer were prompted by no other than a mercenary motive the public would find the amplest protection against bad meats from this cause. Under our municipal regulations we have regular inspectors, whose duty it is to visit the stock yards and slaughterhouses daily, with a view to protecting the public against hogs being slaughtered for food that are diseased. Hogs that die from disease go to the designation of the de cating companies, whose wagons are alone authorized to remove them. The work of our packing houses is done in an open and public manner and under the most improved methods for killing the animals and handling and curing the meats. Then, at last, if meats were sought to be cured from hogs diseased, bruised, or maimed, they would be liable to be detected by our inspectors of meats. I doubt if in the whole range of articles for human food of large consumption there is a better record than that which is furnished by the curers of the hog product. I say this much because in my statistical work I have good opportunities of knowing something about the matters involved in the discussion and because your inquiry and my relations to your Department have made it suitable for me to go beyond the immediate bounds of your inquiry. It is not difficult to see that the outery against the meats made from the hogs of this country is the result of ignorance in relation to the subject or because foreign governments have sought to protect themselves against the growing commercial and industrial importance of this country by resorting to a miserable subterfuge; and the former, with all the agitation since the foreign raid against the hog product of this country was inaugurated, and with the opportunities of information which existed at this stage of the inquiry, seems so improbable as to be unworthy of consideration.

Yours, very truly,

SIDNEY D. MAXWELL, Superintendent.

APPENDIX N.—Quantities and values of exports from Great Britain and Ireland of pork products of foreign and colonial production to France and Germany during each year from 1873 to 1882, inclusive,

[From the annual statement of the trade of the United Kingdom.]

			TO F	RANCE.				
Year ended De-	Bacon.		Hams.		Lard.		Pork, salted.	
cember 31—	Quantity.	Value.	Quan- tity.	Value.	Quantity.	Value.	Quan- tity.	Value.
1878	1, 105, 776 2, 257, 136 1, 118, 208 867, 552 757, 904	\$308, 127 173, 510 113, 020 183, 769 79, 509 57, 128 59, 206 40, 329	Pounds. 219, 520 89, 712 145, 264 370, 496 818, 944 977, 536 688, 912 729, 568 498, 176 182, 224	\$26, 902 12, 531 23, 345 53, 208 99, 715 109, 686 75, 333 90, 040 78, 623 33, 126	Pounds. 556, 192 343, 056 712, 208 670, 544 125, 664			
			TO GE	RMANY.				
1873	1,179,024 541,072 1,971,312 4,208,320 2,443,728	\$230, 906 100, 610 49, 667 114, 650 387, 842 226, 852 45, 998	216, 272	\$11,972	2, 907, 520 1, 734, 320 973, 616 1, 899, 296 1, 130, 528 2, 231, 488 3, 391, 024 3, 458, 896 3, 452, 288 2, 668, 736	\$265,078 205,887 119,015 204,349 117,823 173,009 217,946 284,491 400,036 341,181		\$11,811

APPENDIX O.—Commerce of the United States with France during the year ended June 30, 1883.

IMPORTS OF MERCHANDISE FROM FRANCE.

[n.e.s.: Not elsewhere specified.]

Order of mag- nitude.	Articles.	Quantities.	Values.
-	FREE OF DUTY, Silk, rawpounds. Argolsdo	671,330 9,776,538	\$3, 607, 958 1, 647, 523 1, 260, 717
1 2 3 4 5 6 7	Silk, raw pounds. Argols do. Hides and skins, other than fur. Chemicals, drugs. dyes, and medicines, n.e.s Bolting cloths. Wood, unmanufactured Articles, the produce or manufacture of the United States,		515, 433 395, 329 299, 675
8 9	brought back India-rubber and gutta-percha, crudepounds. Household and personal effects and wearing apparel, old and in	205, 612	291, 601 187, 545
10 11 12	Bolting cloths. Wood, anmanufactured Articles, the produce or manufacture of the United States, brought back. India rubber and gutta-percha, crude pounds. Household and personal effects and wearing apparel, old and in use, of persons arriving from foreign countries Oil, volatile or essential pounds. Paper materials All other free articles.	150, 996 2, 887, 252	170, 941 118, 715 112, 058 80, 223 1, 944, 952
	Total free of duty		10, 632, 670
1	Silk, manufactures of: Dress and piece goods. Other manufactures of		13, 233, 887 8, 820, 779
	Total		22, 054, 666
2	Wool, and manufactures of: Unmanufactured pounds Dress goods square yards. Cloths and cassimeres Shawls. Other manufactures, n e. s	5, 798, 992 44, 974, 881	706, 857 10, 885, 227 2, 155, 363 497, 350 2, 055, 169
	Total.		16, 299, 966
3	Cotton, manufactures of	:	8,787,412
4	Wine, spirits, and cordials: Spirits and cordials, in casks	345,776 79,127 £ ,511,982 417,642	803, 004 516, 717 1, 349, 617 8, 946, 239 6, 615, 577
5	Leather, and manufactures of: Leather of all kinds Gloves of kid and all other skin or leather Other manufactures of	6, 828, 225 251, 464	4,506,206 1,488,423 243,421
	Total		6, 238, 050
6 7 8 9 10 11 12 13	Precious stones. Watches, watch movements, and materials Fancy goods Paintings, chromo lithographs, photographs, and statuary, n. e. s. Furs and dressed fur skins Earthen, stone, and china ware Fruits of all kinds, including nuts Buttons of all kinds, including button materials partly fitted for buttons exclusively Flax, manufactures of Straw and palm leaf, manufactures of Glass and glassware		3, 885, 191 2, 166, 588 2, 075, 529 1, 623, 582 1, 594, 484 1, 382, 046 1, 250, 748
14 15 16 17 18 19 20 21	for buttons exclusively Flax, manufactures of Straw and palm leaf, manufactures of Glass and glassware Chemicals, drugs, dyes, and medicines, n. e. s. Breadstuffs and other farinaceous food Provisions Fish, not of American fisheries Iron and steel, and manufactures of		1, 227, 711 1, 196, 984 1, 084, 357 917, 047 875, 926 786, 836 721, 841 691, 672 629, 845

APPENDIX O.—Commerce of the United States with France, etc.—Continued. IMPORTS OF MERCHANDISE FROM FRANCE-Continued.

Order of mag- nitude.	Articles.	Quantities.	Values.
222 233 244 255 266 277 288 299 300 311 332 333 344 355	Perfumery and cosmetics Jewelry, and all manufactures of gold and silver, n. e. s	144, 622	379, 087 368, 083 366, 471 355, 547 385, 5950 238, 748 236, 487 212, 559 171, 974 148, 078 144, 298 132, 664 128, 679 1, 611, 281 87, 856, 494 10, 682, 670
	Total value of imports of merchandico		01,000,104

EXPORTS OF DOMESTIC MERCHANDISE TO FRANCE.

[n. e. s.: Not elsewhere specified.]

1	Cotton, and manufactures of:		
	Unmanufacturedlbslbs	214, 414, 623	\$22,703,670 13,027
	Total		22,716,697
			20,110,001
2	Bread and breadstuffs: Indian cornbush	1,617,903	1,077,000
	Indian-corn mealbblsbushbushbush	15, 096, 712	495 17, 178, 486
	Wheat flourbbls	63, 223	355, 672 825
	Other small grain and pulse Maizena, farina, and all other preparations of breadstuffs		
	used as food		1,850
	Total		18, 614, 328
3	Provisions:	44.004	
	Bacon	138,610	11, 815 17, 431
	Beef, salted or curedlbslbs		23, 932 25, 250
	Cheeselbs	9,481	1,597
	Condensed milk Fish, other cured		300 16, 433
	Lard lbs. Meats, preserved	31,794,241	3,727,926 26,606
	Oysters Pickles and sauces		1, 188
	Porklbs	109, 400	10,854
	Vegetables, prepared or preserved		1,175
	Total		3,864,544
4	Oils: Mineral, crudegalls	99 770 400	0.000 100
	Mineral, refined		2, 373, 472
	Naphthas, benzine, gasoline, &cgalls_ Illuminatinggalls_	4,890,492 2,122,804	372, 074 162, 002
	Lubricating (heavy paraffine, &c.) galls. Residuum (tar, pitch, &c.) bbls.	613, 725	165, 819 43, 757
	Total mineral		3, 117, 124
	S. Doc. 231, pt 4——54		

APPENDIX O .- Commerce of the United States with France, etc.--Continued. EXPORTS OF DOMESTIC MERCHANDISE TO FRANCE-Continued.

Order of mag- nitude.	Articles.		Qua Qua		values.
4 .	Oils—Continued.				
-	A mism al	80 101	****		
	Lard	78, 181 1, 780	\$73, 457 1, 650 84, 110		
	Whale and other fish	58,929	84, 110		
	Total animal		109, 217		
	Vegetable -				
	Cotton-seed galls Volatile or essential	94,000	46,000 15,082		
	Total vegetable		61,082		
	Total oils		3, 287, 4:23		
ا با			0,201, 200		
5	Tobacco: Leaf	37, 965, 743	6,086,427		
	Manufactures of		5,172		
	Total		3,091,599		
6	Copper, manufactures of		991, 161		
7	Wood, and manufactures of:				
	Wood, and manufactures of: Boards, clapboards, deals, planks, joists, and scantling .M ft. Shooks, staves, and headings. All other lumber. Logs, masts, spars, and other whole timber. Timber, sawed and hewed	12,988	208,828 124,420		
	All other lumber.		32, 022 69, 496		
	Timber, sawed and hewedcu. ft	1,008,431	134,890		
	Household furniture Wooden ware All other manufactures of wood, n. e. s		42,344 2,117		
	All other manufactures of wood, n.e.s		22, 256		
	Total		636, 973		
8	Agricultural implements:	0 717	208 000		
	Mowers and reapers No. Plows and cultivators No.	2,547 145	197, 836 1, 306		
	All other, n. e. s.		204, 566		
	Total		403,708		
9	Seeds:	0 517 005	000 500		
	Clover lbs. Timothy, garden, and all other lbs.	3,547,935	369, 522 21, 239		
	Total		390,761		
10	Tallow	2,988,083	257,018		
îĭ	Tallow lbs. Whalebone lbs.	115.597	245, 421		
12	Iron and steel:				
	Iron, manufactures of— Sheet, band, and hoop.	151	10		
	Castings, n.e.s		4,385 510		
	Steam engines, stationary	1	325		
	Nails and spikeslbs.	15,000	83, 239 465		
	Printing presses and type		1,733 2,134		
	Sheet, band, and hoop. Castings, n.e. s Stoves and parts of Steam engines, stationary		2, 134 72, 074 26, 701		
	Cutlery		879 13,291		
	Files and sawsFirearms		2,261		
	Firearms All other manufactures of steel, n. e. s		2,587		
	Total.		210,674		
- 1		1			

APPENDIX O.—Commerce of the United States with France, etc.—Continued. EXPORTS OF DOMESTIC MERCHANDISE TO FRANCE—Continued.

Order of mag- nitude.	Articles.	Quantities.	Values.
Order			
13	Spirits, distilled: From grain. gals. From other materials	756, 643 55	\$151,634 90
	Total		151,724
14 15 16	Hides and skins, other than fur	282, 458	129, 994 125, 690 77, 932
17	Naval stores: Resin and turpentine bbls Tar and pitch bbls.	30,012 3,003	61, 289 8, 642
	Total		69,931
18	Fruits: Apples, dried	1,272,780	58, 041 204 2, 855
			1,770
	Total		62, 870
19	Hair: Unmanufactured Manufactures of		42,887 3,886
	Total		46,773
20	Varnishgals	11,095	46,663
21	Hemp, manufactures of: ('ables and cordagecwt		177 45, 436
	Total		45,613
22 23 24 25 26 27 28 29 30	Paintings and engravings Jewelry and other manufactures of gold and silver Wearing apparel Bark for tanning India-rubber and gutta-percha manufactures Books, maps, pamphlets, and other publications Fancy articles		38, 650 35, 739 26, 973 26, 057 22, 432 20, 615 19, 782
29	Glass and glassware Paints and painters' colors		12, 442 11, 478
	All articles not enumerated: All other unmanufactured articles All other manufactured articles	=	57, 041 225, 185
	Total not enumerated	-	282, 226
	Total value of exports of domestic merchandise		55, 965, 191
			*,
	RECAPITULATION.		
Imp	orts of merchandise		\$97,989,164
Exp	orts of domestic merchandise orts of foreign merchandise orts of specie orts of specie		55, 965, 191 2, 717, 032 104, 432 1, 381, 214
	Total commerce with France		158, 157, 033

Appendix P.—Commerce of the United States with Germany during the year ended June 30, 1883.

IMPORTS OF MERCHANDISE FROM GERMANY.

[n. e. s.: Not elsewhere specified.]

Order of mag- nitude.	Articles.	Quantities.	Values.
	FREE OF DUTY.		
1 2	Chemicals, drugs, dves, and medicines		\$1,870,723
8 4 5	Articles the produce or manufacture of the United States brought back Hides and skins, other than fur Paper materials Fur skins, undressed Hair, unmanufactured Household and personal effects and wearing apparel, old and in use, of persons arriving from foreign countries India rubber and gutta-percha, crude Guano Books, n. e. 8 Eiggs All other free articles	32, 520, 678	1,552,629 1,046,908 968,550 241,048
6 7	Hair, unmanufactured. bs. Household and personal effects and wearing apparel, old and in use, of persons arriving from foreign countries	418,997	141,837
8 9 10 11	India rubber and gutta-percha, crude 10s. Guano tons Books, n. e. s. Euros doz.	256, 127 943	132, 478 121, 978 56, 843 55, 849 54, 166
	All other free articles		1, 693, 180
	Total free of duty		7, 936, 189
	SUBJECT TO DUTY.		
1	Cotton, manufactures of		8,710,077
2	Wool, and manufactures of: Wool, raw Dress goods Other manufactures of sq. yds.	10, 671 5, 116, 953	8, 960 1, 414, 478 5, 074, 561
		-	
	Total	-	6, 497, 999
3	Silk, manufactures of		4, 227, 109 3, 158, 973
5	Leather, and manufactures of: Leather of all kindslbs Manufactures of	1,644,330	1, 104, 909 2, 010, 072
	Total		3, 114, 981
6	Buttons of all kinds, including button materials partly fitted for buttons exclusively		2, 332, 090 2, 006, 684 1, 690, 143
7 8 9 10 11	Chemicals, drugs, dyes, and medicines		1,690,143 1,435,449 1,288,472 1,156,000
12 13 14 15	Earthen, stone, and china ware Paper, and manufactures of Bristles lbs.	699, 059	1,099,074 928,546 907,202 899,952
15 16 17 18 19	Buttons of all kinds, including button materials partly fitted for buttons exclusively. Fancy goods Chemicals, drugs, dyes, and medicines Glass and glassware Flax, manufactures of Musical instruments Earthen, stone, and china ware Paper, and manufactures of Bristles Books, pamphlets, engravings, and other publications, n.e.s. Sugar, brown lbs Metals, metal compositions, and manufactures of. n.e.s. Zinc, spelter, or tutenegue, and manufactures of. Furs and dressed fur skins.	16, 285, 489	758, 588 681, 562 664, 657
20	Wines spirits and smalled.		636, 819
20	Wines, spirits, and cordials: Spirits and cordials, in casks	37, 292 9, 971 508, 083 29, 481	23, 569 39, 178 387, 219 179, 895
	Total		629, 861
21	Tobacco, and manufactures of: Leaf	591,606	345, 621
			18, 232
	Total		363, 853
22 23 24	Fruits of all kinds, including nuts		558, 045 472, 428 390, 432

APPENDIX P.—Commerce of the United States with Germany, etc.—Continued. IMPORTS OF MERCHANDISE FROM GERMANY—Continued.

Order of mag- nitude.	Articles.	Quantities.	Values.
25 26 27 28 29 30 31 32 33	SUBJECT TO DUTY—continued. Paintings, chromo-lithographs, photographs, and statuary, n. e. s. Wood, manufactures of. Jewelry, and all manufactures of gold and silver, n. e. s. Hair, and manufactures of Watches and watch movements and materials. Paints. Beer, ale, porter, and other malt liquors. Breadstuffs and other farinaceous food. Seeds.	484, 188	\$390, 424 384, 994 321, 552 250, 252 237, 590 207, 696 147, 231 126, 788 116, 468
34	Fish, not of American fisheries: Herring, pickled		

EXPORTS OF DOMESTIC MERCHANDISE TO GERMANY.

[n. e. s.: Not elsewhere specified.]

	[at of all alor allow of a detail and a second a second and a second a		
1	Cotton, and manufactures of: Unmanufactured		\$29, 542, 185 144, 953
	Total		29, 687, 138
2	Oils: Mineral, crudegalls. Mineral, refined or manufactured:	2, 613, 524	178, 927
	Mineral, renned or manufactured: Naphthas, benzine, gasoline. &cgalls_ Illuminatinggalls_ Lubricating (heavy paraffine, &c.)galls_	2,367,177 118,781,859 1,321,345	154, 829 9, 219, 609 265, 218
,	Total mineral	***********	9, 818, 583
	Animal: Lard galls Sperm galls Whale and other fish galls	160	8,412 5,831 98
	Total animal Vegetable: Cotton seed	35, 126	23, 497
	Total vegetable		105, 608
	Total oils		9,962,029
3	Provisions: lbs Bacon lbs Hams lbs Beef, salted or cured lbs Butter lbs Cheese lbs Eggs doz Fish, pickled bbls Fish, other cured bbls	14,004,017 704,815 1,982,054 870,043 185,713 19,200 43	1, 374, 432 94, 851 170, 673 132, 827 17, 117 3, 456 1, 105 84, 199

APPENDIX P.—Commerce of the United States with Germany, etc.—Continued. EXPORTS OF DOMESTIC MERCHANDISE TO GERMANY-Continued.

		1	
Order of mag-	Articles.	Quantities.	Values.
3	Provisions—Continued. Lard. Mears preserved. Oysters Pickles and sauces. Pork. Potatoes and all other vegetables. Description:	1,146,662	\$4,867,142 139,434 13,113 108,025 6,573
4	Total Bread and breadstuffs: Bread and biscuit Indian corn Rye Wheat Wheat All other, and preparations of	10, 790 1, 860, 271 593, 715 1, 405, 999 33, 645	7,013,051 837 1,277,527 436,397 1,610,127 190,240 54,376
5	Total Tobacco, and manufactures of: Leaf	41, 810, 092	2, 996, 050 89, 734
6	Total Seeds: Clover		1,746,670 329,333 2,076,063
7	Iron and steel: Machinery, n. e. s Sewing machines and parts of All other manufactures of iron Steel, manufactures of Total		228, 326 814, 178 239, 003 58, 169 1, 339, 674
8	Furs and fur skins		848, 291
9	Wood, and manufactures of: Boards, clapboards, deals, planks, joists, and scantling. M ft. Shooks, staves, and headings. All other lumber Logs, masts, spars, and other whole timber Timber, sawed and hewedcu ft. Household lurniture All other manufactures of wood, n.e.s	3, 125 423, 824	67,482 43,575 51,684 243,594 119,497 199,215
	Total		794,743
10	Oil cake	55, 687, 968	629,449
11	Leather, and manufactures of: Sole, upper, and all other All other, and manufactures of Total	2, 481, 629	522,574 61,090 583,664
12 13	Naval stores, rosin; turpentine, tar, and pitch	253, 127	546,687 526,027
14	Fruits: Apples, driedlbs. All other, green, ripe, dried, and preserved	3, 696, 119	306.162 51,870
15 16	Total Spirits of turpentine galls Whalebone lbs	680, 551 680, 551	358, 032 290, 608 289, 464
. !			

APPENDIX P.—Commerce of the United States with Germany, etc.—Continued. EXPORTS OF DOMESTIC MERCHANDISE TO GERMANY—Continued.

กลฐ.			
Order of mag-	Articles.	Quantities.	
der	****		
Č			
17	Agricultural implements:		
-	Mowers and reapers No. All other	1,043	\$97,76 185,29
	Total		283, 050
18	Musical instruments		152, 33
19 20	Paintings and engravings Manures		148, 69 136, 02
21	Spirits, distilled galls Hides and skins, other than fur	125,042	124, 06
22			116, 01
23	Copper, and manufactures of:	8 454	65, 449
ı	Manufactures of		39, 56
	Total		105,01
24	Sugar and molasses		94.09
25	Clocks, and parts of		90, 60
26	Wearing apparel Vessels sold to foreigners, sailing tons Books, pamphlets, maps, and other publications	3,245	78,23
28 29	Books, pamphlets, maps, and other publications		73, 19 67, 76
80 31	Fancy articles Zine, manufactures of 2.1.1.		66, 16 58, 32
32	India rubber and gutta-percha, manufactures of		55, 55
33 34	India rubber and gutta-percha, manufactures of Hemp, manufactures of Mathematical and philosophical instruments		54, 92 49, 48
35	Hair, and manufactures of		42.16
36 37	Brass, and manufactures of		33 87
38	Boneblack, Ivory-black, and lampblack Starch lbs Spermaceti lbs	874 793	29, 73 28, 77
40			
41 42	Glass and glassware Jewelry, and other manufactures of gold and silver		24, 14 22, 65 21, 99
43	Glass and glassware Jewelry, and other manufactures of gold and silver Marble and stone, and manufactures of All articles not enumerated—	1 1 1 1 1	21,99
	All other unmanufactured articles All other manufactured articles		218, 01 423, 36
	Total value of exports of domestic merchandise		64, 340, 49

RECAPITULATION.

Imports of merchandise Exports of domestic merchandise Exports of foreign merchandise Imports of specie Exports of specie	2,570,717
Total commerce with Germany.	126, 486, 429

1.7

APPENDIX Q .- Quantity and value of wine imported from Germany into the United States during each year from 1864 to 1883, inclusive.

Year ended June 30—	In casks.		In bottles.		Total.	
1864	304, 953 235, 153 580, 418 860, 626 603, 685 988, 456 687, 647 423, 962 297, 226 274, 355 178, 216 204, 684 184, 613 212, 683 212, 683	\$58, 564 23, 550 155, 620 166, 142 119, 100 215, 781 331, 565 351, 511 226, 694 135, 625 179, 270 111, 525 130, 790 126, 569 146, 982 229, 372 229, 372 287, 219	Dozens. 1, 682 1, 592 3, 440 12, 201 12, 188 10, 910 15, 145 17, 549 7, 967 15, 872 12, 666 11, 017 11, 401 11, 785 12, 898 12, 960 21, 081 29, 481	\$2, 460 11, 730 13, 422 34, 139 88, 074 67, 281 127, 573 52, 277 107, 619 99, 075 93, 177, 214 85, 471 87, 214 85, 307 140, 320 179, 895	\$58, 564, 26, 010 164, 544, 179, 544, 179, 544, 179, 544, 180, 855, 380, 841, 605, 395, 863, 219, 367, 244, 705, 204, 705, 242, 249, 244, 224, 249, 369, 662, 369, 662, 567, 114	

APPENDIX R.—The American pork question in France.

The following letter has been addressed to Mr. De Freycinet, minister of foreign affairs, president of the French cabinet:

Paris, February 5, 1882.

DEAR SIR: The important question of the American salted pork meats, which

your predecessors often examined and always postponed, is not yet resolved.

The decree of prohibition was signed on February 18, 1881. Its object w Its object was to

struggle against a danger which science declared did not exist.

Such a measure suppressed at once in our seaports a branch of trade amounting annually to about 40,000,000 francs (\$8,000,000) and deprived the working classes of a wholesome food at a cheap price.

After February 18 the French Republican Government saw that it had gone too

far; for it was said to General Noves (at that time American minister at Paris) and to French importers, who had in prospect nothing less than ruin:

"Do not provoke any agitation; make no noise; be quiet; the decree is only a

temporary one, and we are going to repeal it."

General Noyes wrote the following reply on April 8, 1881, to the Government

at Washington:

"I have some reason to think that the French Government is more favorably disposed than heretofore towards our application, and I am confident that within two months, perhaps within one month, the order will be annulled."

The two months are now long past, but up to the present date nothing has been done, though the preceding cabinets have made an effort to lull the vigilance of interested people. Recently, I believe, these promises, made in March and April, were renewed to Mr. Levi P. Morton, successor of General Noyes at Paris. Such is my opinion. I can not, however, interrogate Mr. Morton on the subject, nor can he show me his reports.

A project establishing the rules of the microscopic inspection—that is to say, offering an impossibility to the trade—was introduced at the Chamber of Deputies by the minister of commerce on November 5, 1881. That project, elaborated with care, was a perfect one: unfortunately, it was unpractical. the bill was retired by a decree of the President of the French Republic.

Another project was presented to the Chamber by the minister of commerce on January 14 last. This second project proposes to take the place of the prohibitory decree of February, a system of inspection which is neither practical nor logical, but which, however, has the advantage of suppressing the microscope. It was accepted, though imperfect, at Havre, Bordeaux, Marseille, and Lyons just at a time when the minister who proposed it resigned.

At present interested people are afraid that, with a new state of things, the question of microscopical inspection will again be agitated, although recognized impossible by the second project. Should that second project be retired and a third one introduced, but to share the fate of its two predecessors, men of good common sense will ask themselves when the result so anxiously desired will be obtained definitely. The American people have been patient up to this time, but that patience is now nearly exhausted.

In 1867 Mr. Bigelow, then American minister at Paris, received one day the official order to say to the Imperial Government:

"Withdraw your soldiers from Mexico, or we immediately interfere."

The French soldiers were immediately withdrawn.

If you, sir, do not soon repair the mistake committed during the last year, Mr. Morton, faithful interpreter of his Government, will probably before long say to you:
"Repeal the decree of February 18, 1881, or we will prohibit the introduction

to the United States of your wines and silk fabrics." etc.

This, sir, is the impression I received during my last trip in America. You will be able, I am sure, enlightened by your wisdom and patriotism, to save our French trade from the imminent retaliations of the United States.

I am, dear sir, very respectfully,

LÉON CHOTTEAU.

APPENDIX S.

[Telegram.]

NEW YORK, February 1, 1884.

Merchants here engaged in export trade state there is a strict prohibition of hog product, even in bond in transit for other countries, in both France and Germany. Switzerland imports through Italy. At Hamburg and Bremen it is permitted, when taken by the same vessel that brought it, if final destination is a Baltic point outside of Germany; but no transshipment permitted.

E. H. WALKER, Statistician, N. Y. Pr. Ex.

JOSEPH NIMMO, Jr., Chief of Bureau of Statistics.

APPENDIX T.

TREASURY DEPARTMENT, OFFICE SUPERVISING SURGEON-GENERAL U. S. MARINE-HOSPITAL SERVICE, Washington, February 1, 1884.

SIR: In accordance with the request contained in your letter of January 30, 1884. I have to inform you that the total number of seamen treated by the Marine-Hospital Service for the ten years from 1874 to 1883, inclusive, was 234,353. The total number of deaths from all causes during that period was 4,234. There were no cases of trichinosis reported during that period, or since the organization of the service, so far as the records of this office show.

In answer to your inquiry as to whether the class of patients who are treated by this service do not subsist very largely upon pork meat I have to say that they do subsist largely upon that class of food, and it is for the most part salt pork.

Very respectfully,

JOHN B. HAMILTON, Surgeon-General, Marine Hospital Service.

Mr. JOSEPH NIMMO, Chief of Bureau of Statistics.

APPENDIX U.

DISTRICT OF COLUMBIA, HEALTH DEPARTMENT, Washington, February 2, 1884.

DEAR SIR: Referring to yours of January 30, 1884, asking certain information relative to sickness or death caused by eating certain articles of food, I have the honor to state that the records of this Department show no fatal case of sickness caused by the eating of pork meats in the District of Columbia.

In so far as the question of the relative merits of pork meats compared with

other articles of diet is concerned, the only way we have of judging is by the condemnations of unwholesome food. I send you herewith a marked copy of my last published report, which will give you the facts in tabular form. It will be seen that, during the ten years covered, the condemnations of bacon, ham, and pork form but a comparatively small proportion. See pages 13 and 16 of report.

Very respectfully, etc.,

SMITH TOWNSHEND, M. D., Health Officer.

Joseph Nimmo, Jr., Chief Bureau of Statistics.

APPENDIX V.—Statements from the chief health officers of New York, Boston, Philadelphia, and Baltimore in regard to the total number of deaths in those cities and the number of deaths from trichinosis.

Office of the Board of Health, Registration Department, No. 604 Sansom Street, Philadelphia, February 1, 1884.

SIR: Your telegram this date to hand. In reply:

Years.	Number of deaths.	Deaths from trichinosis.
879	15, 473 17, 711 19, 515 20, 059 20, 006	
Total	92,764	8

Yours, respectfully,

G. E. CHAMBERS,

Registrar.

Per Turney.

Joseph Nimmo, Esq., Washington, D. C.

Number of deaths in the city of New York during the ten years 1874-1883, and the number of deaths attributed to trichinosis during the same period.

Years.	Number of deaths.	Deaths from trichinosis.
1874 1875 1876 1877 1877 1878 1879 1880 1881	28, 727 30, 709 29, 152 26, 203 27, 008 28, 342 31, 937 38, 624 37, 924 34, 011	None. None. None. 1 None. 1 None. 2 None. None.
Total	170, 838	5

Correct:

EMMONS CLARK, Secretary Health Department, New York City.

1.79

[Telegram.]

Board of Health, Boston, Mass., February 1, 1884,

SIR: Total number of deaths reported to us last five years, 43,680. No deaths reported from trichinosis.

Respectfully, ...

1

. . .

A. H. DURGIN, Chairman.

To Joseph Nimmo, Jr., Washington, D. C.

> HEALTH DEPARTMENT, City Hall, Baltimore, February 1, 1884.

DEAR SIR: Your telegram to Dr. Benson has been placed in my hands. I endeavored to reply by telephone, and now write to verify my statement. I have just completed a statistical table, covering a period of fifty-four years, in regard to zymotic diseases and the mortality of children under 5 years of age in the city of Baltimore. Have also made a very thorough examination of the reports of this department from January 1, 1834, to December 31, 1883, a period of fifty years, and have been unable to find a single case of "trichinosis" reported. I have also consulted some of our ablest as well as oldest physicians. Their testimony is, that they never heard of a case in Baltimore. I have resided here nearly fifty-seven years, and consider myself a close observer; have a good memory also. I never heard of a case in our city, notwithstanding a vast amount of pork is consumed by our citizens. I therefore feel quite confident in asserting that this city has been absolutely free from this disease. I find by my table that the total number of deaths in Baltimore have been as follows:

	2,308	1857 1858	
	2,308		
	1 3, 572		5, 40
>		1859	4.6
	2,405	1860	4.8
		1861	
)		1862	5, 1
		1863.	5,5
	2,518	1864.	
	2,376	186)	
)	2,260	1866	
)	2,045	1867	5,2
		1858	6,1
·		1869.	6,4
}	2,333	1869.	7,2
		1871	7,1
)		1872	27,5
		1873.	\$7,8
·		AUTA,	7,4
		1875	7,3
1		1876	7,3
1	4,210	1011	9,0
	4, 169	1878	6,7
		1879	7,6
3		1880	
	5,416	1881	8,8
6	5,075 5,229	1882 1883	48,9

¹853 from cholera. ²866 from sma.lpox.

Making a grand total of deaths during fifty-four years, 264,324, of which number 125,874 were children under 5 years of age, 17,982 having died from cholera infantum.

Respectfully submitted.

A. R. CARTER, Secretary Health Department.

JOSEPH NIMMO, Jr., Esq., Chirf of Bureau of Statistics, Washington, D. C.

³617 from smallpox. ⁴551 from smallpox.

⁵ 633 from smallpox.

APPENDIX W.-Letter addressed to the Chief of the Bureau of Statistics by Mr. Charles Randolph, secretary of the Board of Trade of Chicago.

> BOARD OF TRADE, Secretary's Office, Chicago, January 30, 1884.

DEAR SIR: Yours of the 26th and 28th instants are received, the first with inclosures, which I herewith return. I have read over your letter (copy) to Mr. Murray. I quite agree with you that it would be "a perversion of the truth to represent that the total falling off in our exports of hog products has been due entirely to the action of Germany and France." The Geman general interdiction did not take effect until March, 1883.

The decree of June 25, 1880, a copy of which you inclosed me, did not cover any thing but sausage, and had little effect in this country, as we had sent but an insignificant quantity previously. In March, 1883, a new order was issued, the text of which I have not got. This covered all forms of pork meat when designed for consumption in Germany, and, by the statement of Consul Mason, at Basle. Switzerland, was also held to prohibit the transportation, even in sealed cars, of American pork from other countries through German territory to countries beyond. This, perhaps, was the most unfriendly act that has grown out of the whole business, and one that it seems to me ought to have called out a vigorous protest from our Government. The State Department was, I think, informed in May last of this prohibition, the circumstances of which were detailed in correspondence sent the Department by Consul Mason. There is no prohibition on the importation of lard in Germany; but the authorities have, I understand, seized some lard alleged to be mixed with water, and confiscated it at the German border (I think Aix-la-Chapelle). In France the prohibition is held to cover all forms of pork meat. Due not lard. I think there is a still later decree than that of February 18, 1881, copy of which you sent. This one, however, would doubtless be held to cover all forms of pork meat, whether salted in barrels or otherwise, smoked or not. These properties of the trade to cover all forms of pork except lard, in hibitions are understood in the trade to cover all forms of pork except lard, in both France and Germany, with the exception that pork in barrels is allowed into German ports if to be used on shipboard, and is held under Government control until taken for shipment by sea.

The great falling off in exports of hog products from this country has been far more on account of the high price at home than from any of these prohibitions, the high prices made by home demand of course being possible of attainment on account of that demand being largely increased on a diminished supply, resulting from the causes alluded to in your letter to Mr. Murray. Mess pork in barrels is perhaps the best standard to estimate all values by. That averaged in this market in 1878, \$9 per barrel: in 1879. \$8.54; in 1880, \$13.06; in 1881, \$16.47½; in 1882, \$19.42; and in 1883, \$15.12½; but up to July, 1883, very much higher than the average of the whole year. That the price (here) has had more to do with the falling off in exports than any prohibition is clearly shown in the falling off in lard exports, on which there has been no prohibition, and also in the large decline in exports to Germany prior to March, 1883, when there was no prohibition except

as it relates to sausages.

I can not say positively as to whether or not the action of France and Germany has discredited our pork products in Great Britain to an extent that has diminished our exports there, but I do not think it has had any such effect. Those exports have been reduced, as I think on account of our high prices for home consumption, the same as corn exports were diminished in 1882 from the same cause. I do not see how you can arrive at a percentage of total exports of hog products that falls under the prohibition in any satisfactory manner. You might take the total exports of any given year prior to the prohibitions, and, arriving at the percentage of that year which went to those countries, state that to be the percentage that under a similar volume of exports would now be the percentage falling under the prohibitions: but even that would not be a very satisfactory way of stating it. because under a different range of prices, changed home supplies, etc., it might be quite different.

I do not think of anything else in this connection that can be of value to you.

Yours, truly,

CHAS. RANDOLPH, Secretary.

Hon. Jos. NIMMO, Jr., Chief of Bureau of Statistics, Washington, D. C.

APPENDIX X.

HEALTH DEPARTMENT, No. 301 Mott Street, New York, January 31, 1884.

DEAR SIR: I have examined the article inclosed in yours of 30th instant on "Trichine and trichinosis," and confidently certify to the correctness of the state-ments therein. That more deaths occur and more sickness prevails from eating fish and oysters in bad condition, and from eating stale vegetables, than from eating pork, can hardly be questioned.

Yours respectfully,

EMMONS CLARK, Secretary.

JOSEPH NIMMO, Jr., Chief Bureau of Statistics, Treasury Department, Washington, D. C.

APPENDIX Y.—Duty imposed by the French Government under provisions of the general tariff promulgated May 8, 1881, on hogs and hog products when imported into that country.

[From the new tariff, translated from the Journal Official by the U.S. State Department,]

Pigs	3.00 francs each=57.9 cts. each
	.50 francs each 9.7 cts. each.
	3.00 francs per 100 kilos=26.3 cts. per 100 lbs.
salted	4.50 francs per 100 kilos=39.5 cts. per 100 lbs.
preserved in cans	8.00 francs per 100 kilos=70.2 cts. per 100 lbs.
extracts of	4.00 francs per 100 kilos=35.1 cts. per 100 lbs.
Animal fat, except fish oil	Free.
Other raw animal products	Free.

Duties imposed by German Government on hogs and hog products, July 15, 1879.

[U. S. State Department, Commercial Relations, 1879, vol. 2.]

Meat, slaughtered, fresh or	
pared, game and poultry, i	fowls,
not living, meat extracts	12.00 marks per 100 kilos=\$1.298 per 100 lbs
Lard of swine and geese	10.00 marks per 100 kilos = 1.082 per 100 lbs
	2,50 marks each 59,5 cts, each.
Sucking pigs, weighing less th	
kilos	

LEGATION OF THE UNITED STATES, Paris, February 8, 1884.

SIR: I beg to inclose a copy of a telegram which I had the honor to address to you. * * * I am happy to add that the French Academy of Medicine has with but one dissentient voice voted that the Government may without injury to the public health withdraw the decree prohibiting the importation of American salted meats. Herewith you will find a printed slip giving the substance of their answer to the questions propounded by the Government. I was informed by a member of the academy some days since of the probable result of the inquiry.

Mr. Ferry also made renewed inquiry regarding steps which had been taken to inaugurate American Federal inspection, the adoption of which system he believed

would be the most satisfactory solution of the controversy. I have the honor to be, sir, very respectfully, your obedient servant,

Hon. FRED'K T. FRELINGHUYSEN, Secretary of State. LEVI P. MORTON.

[Extract from Morning News, February 7, 1884.]

THE LATEST VIEWS ON PORK.

The following are the answers of the French Academy of Medicine to the questions of the minister of commerce on the subject of the importation of foreign meat:

1. The symptoms of typhoid and trichinosis are so dissimilar in every respect

that one epidemic could never be mistaken for the other.

II. The importation of foreign salt pork may be fearlessly authorized by the French Government, as it is clearly proved that no danger to public health has been caused by such importation.

III. Special international laws ought to be enacted by which guarantees against

the importation of diseased meat may be had.

IV. Positive instructions should be distributed to all venders of foreign pork, who ought to be forced by law to hang up in their shops, in the same way that wine-shop keepers exhibit the statutes, "Loi d'Ivresse Publique."

March 24, 1884.

[Senate Report No. 345, Part 2.]

Mr. Vance, from the Committee on Foreign Relations, submitted the following views of the minority:

The undersigned is not able to concur in the report of the committee, and is constrained by the importance of the subject to present

the reasons for his nonconcurrence.

The matter complained of, and which the bill is designed to remedy, is the exclusion of our hog products from entering Germany for sale on the ground that they are unwholesome. In my opinion, Germany has the right to do this if she deems it proper, and that we are not justified in impeaching her motives in so doing.

If it be true that our pork is to any extent unwholesome, we should endeavor by a rigid system of inspection to remove the cause of

complaint.

If it be that fear of trichinosis is only a pretext, and that the real reason for excluding our hog products is the desire to protect their own producers, then we are the last people on earth who ought to After surrounding ourselves for more than twenty years complain. with a protective tariff wall so high as to exclude virtually all the products of Germany which compete with ours, it is rather late for us to advocate retaliation against a government which merely follows our example. In fact Germany's action is retaliation, and the cry of "Stop thief" can not change the true condition of things. We have got to learn that we are not so great and independent as to enable us to defy the laws of political economy and the amenities of international trade with impunity.

We have been told again and again that our true policy was to shut up our manufactures from the competition of the world, and that all the nations thus excluded would be compelled, nevertheless, to buy our breadstuffs and provisions—that they could not do without them. We are greatly surprised and indignant when one important customer says he can get along without our hog products, and forbids their coming in; and we propose to retaliate! For what? For simply and frankly forbidding them to be imported. Suppose, instead of doing this, Germany had imposed a duty of 100 per cent on them, which as effectually prohibited their importation, what then? Where would be

our so-called retaliation? The undersigned can see no difference whatever in the two methods of prohibition, so far as results are concerned, only that the one is manly and direct, while the other is

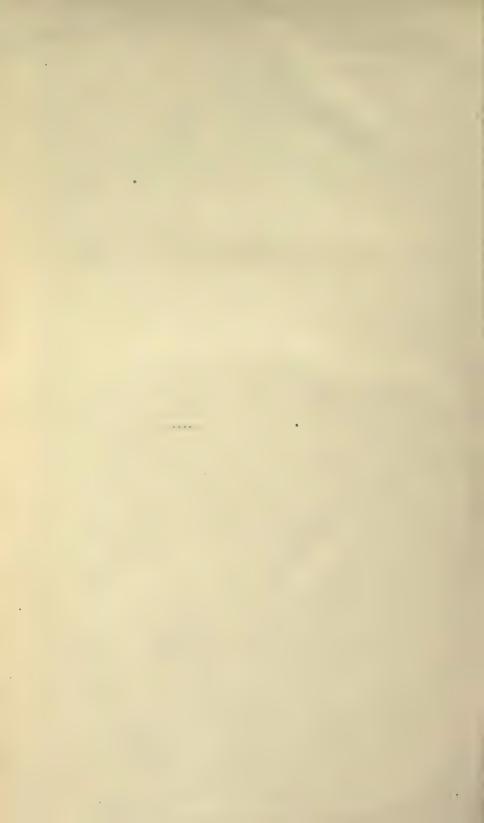
indirect and based on false pretenses.

Our great meat industry must indeed be cared for. It, with kindred agricultural industries, furnishes nearly all of our foreign trade, and they deserve all that Congress can do for them. But this bill does not propose the true way to do it. This way is to remove as far as possible all restrictions upon trade, and to enlarge the markets for our farmers' products all over the world by liberal treaties and tariff laws.

The last section of the bill is especially objectionable, not only in the proposed retaliation, but in the relegation of the whole matter to the Executive. We propose thereby to arm the Chief Magistrate of a constitutional republic with the same arbitrary power over commerce that is now exercised by the prime minister of a feudal European despotism, in order that on equal terms they may inflict mutual injuries on their people until one or the other gives in. This, too, while Congress is in session, and the representatives of the people are present, ready to say if they wish to begin this war, and on what articles of commerce they prefer the fight to be made. The section, in effect, is an abdication of the powers and duties of Congress and a delegation thereof to the better judgment of the President. If such measures of so-called retaliation toward Germany, or any other nation, should be deemed necessary or advisable, imprimis let Congress say so; and let it likewise prescribe all the details of such measure, and the articles on which the struggle is to be made. It is the President's business to execute the laws, not to make them; it is as certainly the duty of Congress to make them, and not shift the task upon somebody else.

Those sections of the bill which provide for an inspection of meats designed for exportation, and which forbid the importation of adulterated and unwholesome articles of food or drink, constitute proper legislation, and while not regarded as sufficiently thorough, are yet in the right direction. When perfected by experience and the sincere desire to give the world wholesome food, which it is not doubted all our producers entertain, in the opinion of the undersigned all will have been accomplished that is desired by the friends of the bill.

Z. B. VANCE.



[Note.—For all subjects connected with Nicaragua Canal, see Nicaragua Canal, this index, and Interoceanic Canals, Vol. VIII.]

A.

Paga

	age.
Alaska, to facilitate development of	140
Alert, authorizing return of steamship	44
Algiers, Americans captive in	6,8
frigates for Dey of	6
protection of commerce against cruisers of	6,8
American captives in Algiers	
commerce in Mediterranean	6,8
conference to promote commerce	136
Medical Congress, delegates to	409
Nations, assembly of	12
navigation, to promote	526
seamen, for protection of	526
Anderson, Richard C. (See Nominations.)	
Argentine, present to American minister from	44
Assembly of American nations at Panama	12
Authority to accept decorations	9, 56
medals 42, 55, 57, 69	75
position	37
presents	3, 68
return steamship Alert.	44
В.	
Baltimore, medals for crew of U. S. S.	75
Barbary powers, for protection of commerce against	6, 8
Bark Lammerlaw, medal for aid to	42
Bartholdi Statue of Liberty Enlightening the World	57
Belgium, chargé d'affaires to. (See Nominations.)	
Bernadou, J. B., vases from Government of Japan for	68
Bolivar, Simon, statue to	43
	503
Mexico (see Nominations)	33
British vessels, embargo against	528
C.	
Cable, Pacific	490
· · · · · · · · · · · · · · · · · · ·	503
Canals, Nicaragua (see Nicaragua Canal) 105, 107, 135, 139, 141, 187, 402, 410, 415,	457
Tehuantepec	81
Captives in Algiers, American	-
Cassard, Augustus J., medal from French Government for	
Chargé d'affaires to Belgium. (See Nominations.)	
S. Doc. 231, pt 4——55	

	Page
Chesapeake, attack by British ship Leopard on frigate	51
Chicago, International Exhibition of 1893 at	40'
Chile, medal to D. W. Mullan from Government of	
China, decoration to D. Pratt Mannix from Government of	5
Citizens of United States in captivity in Algiers	5, 6,
Colombia, authority to Lieutenant Lemly to accept position with	3
John W. Phillip to accept present from	51, 6
Colonial possessions of foreign nations, commerce with	
Commerce, American conference to promote	
Oriental	6,
protection against Barbary powers for	53:
restriction of	
spoliations on	
suspension of	24 52
with foreign colonial possessions	
nations. 507, 508, 511, 512, 513, 518, 523, 524, 525, 526, 52	
France, suspension of	,
Great Britain, suspension of	
Santo Domingo, suspension of	
Commission, Canadian boundary	
Conference, Pan-American Medical	409
to fix common prime meridian 18	34, 13
promote commerce, American	130
Congress of American nations at Panama	12
Pan-American Medical	409
Consuls, defining and regulating duties of	508
Conway, John R. (See Nominations.)	
Council, orders in	514
Crimes against neutrality of United States, punishment of	532
D.	
Darien, Isthmus of. (See Nicaragua Canal.)	
Decorations, from Government of China	50
France	43, 49
Russia	47
to Cassard, Augustus J	45
Howard, O. O.	49
Mannix, D. Pratt	56
Rawicz, Joseph	43
Decrees of Berlin and Milan.	514
Development of Alaska, to promote the	140
Dey of Algiers, frigates for	(
Diversion of waters between United States and Canada	503
Duties of consuls, defining and regulating	508
on French vessels, remission of	511
tonnage	507
E.	
Embargo on vessels of France	512
remission of penalties under acts of	526
removal of	1, 528
Envoys. (See Nominations.)	

867

Page. Exhibition at Chicago, International, 1893..... 407 Havre, International Maritime 95 Paris, 1889 158 F. Firearms, traffic with New Hebrides in 533 Foreign nations, commercial intercourse with 507. 508, 511, 512, 513, 518, 523, 524, 525, 526, 528, 532 tariff discriminations of..... 532 Forfeitures under embargo acts, remission of 526 statue of Liberty Enlightening the World from citizens..... 57 vessels of, embargo on 512 remission of duties on 511 Frigates for Dey of Algiers 6 G. Gallatin, Albert. (See Nominations.) Government, decoration from China.... 56 Russia 47 France 42, 57 Great Britain 42 Sweden 75 position with Colombia..... 37 present from Argentina.... 44 Great Britain 42 Japan 68 Spain.... 37 statue from France 57 Venezuela 43 Great Britain, boundary commission with..... 503 envoy to..... 12 medals from 42 minister to..... 30 presents from 37 return of steamship Alert to..... 44 H. Hague, minister at the..... 11 Havre, International Maritime Exhibition at..... 95 Hawaii, cable to..... 490 Howard, Gen. O. O., decoration from France for 49 I. Intercourse with foreign nations, commercial..... 507. 508, 511, 512, 513, 518, 523, 524, 525, 526, 528, 532 diplomatic

· ,	Page.
Intercourse with France, suspension of commercial 512, 513, 518	
Great Britain 518, 523	
Santo Domingo 512	
International American conference to promote commerce	36
boundary commissions 33	3, 503
conference of American nations	136
to fix common prime meridian	1, 138
exhibition at Chicago, 1893	407
Havre, maritime	95
Paris, 1889	158
Intoxicants, traffic with New Hebrides in	533
Isthmus of Darien. (See Nicaragua Canal.)	
Nicaragua. (See Nicaragua Canal.)	
Tehuantepec. (See Nicaragua Canal)	105
J.	
Japan, present to J. B. Bernadou by Government of	60
Jeannette, recognition of services to survivors of crew of steamer	68 45
Jean-newe, recognition of services to survivors of crew of steamer	40
L.	
11,	
Lammerlaw, medals for aid to crew of bark	42
Legaré, Hugh S. (See Nominations.)	
Lemly, Lieut. Henry R., position with Government of Colombia	37
Leopard, attack on frigate Chesapeake by man-of-war	514
Liberty Enlightening the World, statue of	57
London, minister at	11
Longitude, conference to fix common prime meridian of	, 138
M.	
Mannix, Lieut. D. Pratt, decoration from Government of China for	56
Maritime canals. (See Nicaragua Canal and Tehuantepec Canal.)	90
exhibition at Havre, international	95
Meats, restriction of importation from United States of	
Medals, permission to accept from Government of Chile	
France	
Great Britain	42
Sweden	75
to Cassard, Aug. J	
crew U. S. S. Baltimore	75
Mullan, D. W	
Stream, Albert T.	42
Medical Congress, delegates to Pan-American.	409
Mediterranean, trade and commerce of United States in	
Meridian of longitude, conference to fix common prime	
Mexico, boundary commission with. (See Nominations.)	
Ministers. (See Nominations.)	
Monroe, James. (See Nominations.)	
Morocco, to secure recognition of treaty with	5
Morris, Gouverneur. (See Nominations.)	
Mullan, D. W., medal from Government of Chile to	5, 69
Munitions of war neutral trade in	532

N.

	Page.
Navigation, to promote American	526
Neutrality, to prevent violation of	532
New Hebrides, traffic with natives of	
Nicaragua Canal	
Administration of canal work	
Advisory board of engineers	
report, 1889	
Alaska, products of	
American citizens, employment of	
American Isthmus, canal across, early ideas in relation to	88 908
first survey for	
historical review of	
lowest continental divide	
Aqueduct, Greytown	041
Atkins, Thomas B., statement of	
Atrato-Napipo canal route	
Australia, commerce in 1888.	
Belize, British settlement at	
declared a British colony, 1862	191
legislative assembly of, 1853	
Bonds for canal, guaranteed by United States	
application of proceeds of 2	
cancellation of 2	
duration of 205, 4	,
interest on 204, 412, 467, 4	71,472
issue to Maritime Canal	
Company 204, 40	69,470
limit of amount 110, 20	05,412
suspension of issue of	472
not guaranteed by United States, amount not limited	200
outstanding	469
interest on	349
market price of	200
negotiation of 3	48, 379
Boundary between Nicaragua and Costa Rica	377
Breakwater at Brito 216, 217, 30	66, 367
Greytown	39, 376
Brito, breakwater at	66, 367
harbor construction at	367
Business of canal, estimated	52, 358
California Bankers' Magazine on	271
Canal work, administration of	238
Capacity of	217
Capital, foreign 201, 38	54, 460
Charter to Canal Company 4	
Clay, Henry, as to advantages of canal	188
Clayton-Bulwer convention	189
British action under.	
Central America under, control of	189
inapplicable now	191
negotiation of	189
provisions of	
Province	,

Nicaragua Canal—Continued.	Page.
Climate	
effect on Northern men of	360
Commerce of Australia	327
France	, 486
Germany327	*
Great Britain 326	,
Lake Superior Canal	231
New South Wales	328
New Zealand	327
United States, total foreign	326
Victoria	328
Commercial importance of canal	
Commissary arrangements for employees.	238
Completion of, time necessary for	
Concessions from Costa Rica	
history of	378
protest of Nicaragua against 378	
Nicaragua	
lands under	461
transfer from Canal Association to Construction Company	
	, 392
	, 354
Construction Company to Maritime Canal Com-	400
pany	
value of	461
	457
Congress, action of	459
Construction Company. (See Nicaragua Canal Construction Company.)	070
materials	
Contract, Construction Company with Maritime Company, permanent. 247,	
294, 396, 398	,
	470
temporary 200	
381, 386, 393	, 397
Convention of 1850. (See Clayton-Bulwer treaty.)	101
1859, Great Britain and Guatemala	191
Correspondence as to report of Charles E. Harvey	222
Costa Rica, concessions of	
protest of Nicaragua against 378	
navigation rights of	
Nicaraguan boundary with	
protest of Nicaragua against concessions of	
stock of Maritime Company to	
Cost of canal, estimated actual . 199, 219, 220, 287, 347, 348, 349, 357, 358, 380, 458	
without Government aid	
maintenance	489
Dams, Ochoa	
San Francisco Valley	
San Juan River	., 363
Darien, isthmus of. (See American isthmus.)	
Davis, Frank P., report as to work prior to October, 1890	243
Deseado Swamp, engineering work in	197
Des Moines Canal	119
Dimensions of	217
sections of	218

Nice	aragua Canal—Continued.	P	age.
	Diplomatic view of construction		468
	Directors Maritime Canal Company		373
	Government 205, 41		
	Distances, table of		
	Dividends of Nicaragua Canal, estimated	2, 472,	473
	Suez Canal		
	Earnings of canal, estimated	7, 472,	473
	Earthquakes		364
	Employees, commissary arrangements for		238
	health and comfort of	. 197,	238
	Engineers, advisory board of	. 381,	458
	report of, 1889		293
	division, reports of		243
	Government inspecting board of		472
	Engineering News, articles on Nicaragua Canal	. 260,	265
	difficulties		361
	Environments of		232
	Excavation of rock and earth, estimate of	. 267,	357
	Expenditures of Maritime Canal Company	. 370,	376
	Explorations for canal, 1870–1876		208
	Financial provisions of Senate bill 1481, Fifty-second Congress	. 470,	472
	Forests of Nicaragua, value of		367
	France, commerce of		486
	Freight rates, bulk, long haul		263
	on lumber, New York to Greytown		353
	Gateway of communication between North and South America		193
	Geology of Nicaragua Canal route		232
	Germany, commerce of		
	Government, aid of		
	control of, advantages of 14		
	public opinion as to		460
	treaty rights under		
	surveys, purpose of		210
	Great Britain, commerce of		
	interest in Nicaragua Canal		467
	Suez Canal		467
	settlement at Belize		191
	treaty with Guatemala, 1859		191
	Greytown aqueduct		341
	Harbor		
	breakwater to		
	dredging of		340
	restoration of		216
	size of		340
	Guatemala, treaty with Great Britain, 1859		
	Harbor, Brito, construction of 21 Greytown	222	246
	breakwater to	330	376
	dredging of		340
	restoration of		216
	size of		340
	Harvey, Charles E., C. E., report of		222
	Health of employees, care of	. 197	
	Historical view of canal		187
	ACCUPACION LAW II WE ASSESSED TO THE PROPERTY OF THE PROPERTY		

lica	aragua Canal—Continued.	P	age.
	Hitchcock, Hiram, president Maritime Canal Company, statement of		369
	Hospital service	248,	341
	Importance to American republics of		193
	Income of canal, estimated		473
	Indebtedness of Maritime Canal Company, liquidation of		
	India-rubber industry of Central America		488
	Influence of canal on trade		482
	Inspecting engineers, board of Government		472
	Interest on bonds guaranteed by United States 205, 412, 467,		
	not guaranteed		
	Interoceanic communication		350
	Isthmus of Darien. (See American isthmus.)	•	000
	Laborers, American, number employed		344
	pay of		344
	Nicaraguan, general character of	-	344
	Labor supply		
	Lake Nicaragua only practicable passage		
	rise and fall in		360
	swamps and lowlands of		361
	Superior basin, canal facilities and traffic of		224
	ship canal 224-2		
	commerce of		231
	construction of, 1852	-	224
	cost of construction		225
	locks of	_	226
	obstacles overcome in building		225
	traffic and development of	_	228
	Lands, concessions of	-	461
	Length of canal		
	Liabilities of Maritime Canal Company, liquidation of	169,	470
	Location of	338,	356
	Lockage 219, 2		358
	Locks, Nicaragua Canal		365
	Louisville and Portland Canal		118
	Lumber freight rates		353
	trade, Pacific coast		488
	Machine shops, construction of		345
	Maritime Canal Company of Nicaragua	116.	143
	Business outlook of		350
	Capital stock of, bonus from		200
	cancellation of		470
	for Canal Association	,	384
	Construction Company 384, 3		
	Costa Rica		
	Nicaragua		
	holders of		
	issue of	200,	400
	limit to		469
	outstanding	25.4	
	ownership of		
	Meetings of		395
	Report on		222
	Statement of treasurer of		373
	Work accomplished by		251

INDEX. -

Nie	earagua Canal—Continued.	
		91
	Menocal, A. G., chief engineer Construction Company, statement of 208, 3	
		71
	1 1/	37
		68
	· · · · · · · · · · · · · · · · · · ·	57
	7/1	42
	Mortgage, foreclosure of	72
	Mosquito Coast. (See Belize.)	
	,	89
		28
		27
	Nicaragua Canal Association, concessions to 192, 251, 378, 383, 3	
		38
		85
	organization of 192, 251, 378, 383, 3	92
	1 - 1	91
		84
	transfer to Construction Company 384, 3	91
	1	38
	1 0/ 1	47
	A 1 TO 1	77
	contract with Maritime Com-	
	pany 200, 347, 377, 380, 386, 393, 4	
	expenditures of	
	financial plan of 348, 3	
		83
	A	91
		00
		95
		85
	relations with Construction Com-	
	pany 384, 3	91
	Maritime Com-	
	* *	77
	T. P. C.	75
	work performed by 243, 3	
	1	88
		60
		61
	1 7/1	44
		51 88
	the post of the same of the sa	
	boundary between Costa Rica and 377, 3 climate of 253, 269, 3	
	concessions from 296–3	
	lands granted by	53
	products of2 protest against Costa Rican concession of 378, 3	
		69
	20011001	53
	stock in Maritime Canal Company of 204, 384, 412, 4	
	temperature of	
	temperature or	2.50

Nic		Page.
	Nitrate trade, facts concerning	330
	North Sea Canal	119
	Ochoa Dam	, 236
	Panama Canal	, 410
	Railway	209
	Police organization for	238
	Policy of United States, President Hayes as to	203
	Secretary Evarts as to	203
	Political advantages of	272
	President of Nicaragua, statement of	459
	Products of Alaska	334
	Nicaragua	253
	Pacific coast	271
	Proposed route	. 356
	Public opinion on Government control	460
	Puget Sound lumber trade	352
	Queensland, commerce of, 1888	327
	Railway, Deseado Swamp	197
	Nicaragua Canal	
	Panama	208
	transcontinental	464
	Rainfall of Nicaragua	363
	Report advisory board of engineers, 1889	
	Committee on Foreign Relations, Forty-seventh Congress, special	,
	session	105
	Forty-seventh Congress, first ses-	200
	sion	107
	Forty-seventh Congress, second	101
	session	135
	Forty-ninth Congress, second	100
	session	139
	Fiftieth Congress, first session.	141
	Fifty-first Congress, second ses-	1.11
	sion 187	409
	Fifty-second Congress, second	, 402
	session	415
	Fifty-third Congress, second ses-	, 410
	sion	457
	division engineers 222	
	Maritime Canal Company to Secretary Interior, 1889	369
	Maritime Canal Company to Secretary Interior, 1855	473
		480
	Monacel A. C. chief engineer	275
	Menocal, A. G., chief engineer	
	Resolution of Senate authorizing inquiry	, 400
	Revenue, annual estimated	
	Rio Lajas route	120
	St. Marys River dam and improvements	
	Salmon industry of Northwest	488
	San Carlos River dam	120
	Francisco Valley dam	361
	Juan River dam	363
	Sault Ste. Marie Canal, transit through	261

Nic	aragua Canal—Continued.		age.
	Scenery of Nicaragua		253
	Seasons in Nicaragua		
	Secretary of Interior, transmitting report of canal company, 1892		473
	1893		480
	Senate bills, financial provisions of 204, 411, 460,		
	Sherman, Hon. John, reports by		
	Shipping tonnage of the world		
	Soil, character of		265
	Spanish canal proposition of 1551		188
	Stock. (See Maritime Canal Company, Nicaragua Canal Association, an	d	
	Nicaragua Canal Construction Company.)		
	Strategic view of canal		
	Stubbert, J. Edward, report on hospital service of		248
	Suez Canal, administration of		
	British control of		190
	capitalization of		465
	cost of construction		465
	dividends of	,	
	length of	353,	465
	revenue of	353,	466
-	toll rate of		351
	tonnage of	351,	466
	Survey commission, 1872		209
	preliminary, cost of		338
	United States	196,	210
	Swamp, Deseado River		197
	Lake Nicaragua		361
	Tehuantepec Canal	124,	128
	Telegraph and telephone lines along canal		
	Temperature of Nicaragua	253,	342
	Toll rates on wheat, lake and canal		262
	Nicaragua Canal 201, 330,		489
	Tonnage dues of		472
	prospective		463
	report on		321
	tributary to canal		
	world's shipping		
	Topography of route		233
	Towage of sailing vessels		353
	Trade of United States, coastwise		487
	and lake		
	Traffic capacity of canal		255
	classification of		331
	report on tonnage of		321
	Suez Canal		257
	tributary to Nicaragua Canal, aggregate		489
	entirely 331, 333,		
	partially		
	Transcontinental railways	,	464
	Transit, time occupied in		
	Treaty, 1859, Great Britain and Guatemala		191
	1850, Great Britain and United States		189
	1867. United States and Nicaragua 114,		

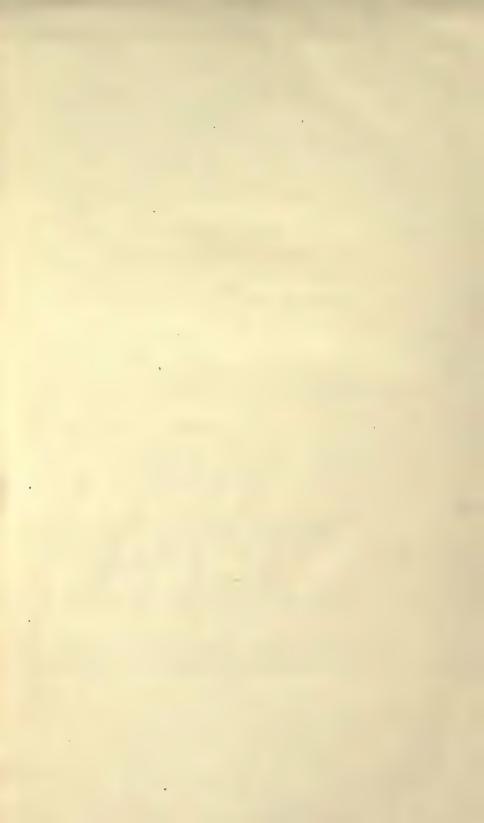
Nicaragua Canal—Continued.	Page.
Treaty, 1884, United States and Nicaragua, cause of withdrawal	203
negotiation of	192
rights under	469
United States coasting trade	257
control of canal	, 469
foreign commerce, 1889	326
stock in Maritime Canal Company	468
treaty with Great Britain, 1850	189
Nicaragua, 1867 114, 192	
1884 192, 203	
Victoria, commerce in 1888 of	328
Water required for lockage	
supply	219
Welland Canal	108
Wheat of Pacific coast	271
rates, lake and canal	262
Work, estimated cost per yard	268
on canal, general features of	254
proposed	253
Nomination of Anderson, Richard C.	12
Conway, John R.	33
Gallatin, Albert	12
Legaré, Hugh S	29 11
Monroe, James.	11
Morris, Gouverneur	11
Pickering, Thomas Runnells, Hiram G.	33
	11
Russell, Jonathan	12
Sergeant, John	11
Short, William	30
to be boundary commissioners with Mexico	33
chargé d'affaires to Belgium	29
minister to France	11
Great Britain 11, 1	
Netherlands	11
Panama Congress	12
Russia	12
Sweden	11
Secretary of State	11
•	
0.	
Orders in council	514
Oriental commerce	532
Osborn, Thomas O., present from Government of Argentina	44
P.	
Pacific cable	490
Panama, Assembly of American Nations at.	12
Pan-American Medical Congress.	409
Paris, World's Exhibition of 1889 at	158
Permission to accept position with Government of Colombia	37
Philip, John W., present from Government of Colombia for	
Pickering, Thomas. (See Nominations.)	

		Page.
Pinckney, Thon	mas, presents from Governments of Great Britain and Spain for.	37
Poor, Henry V.	., compilation by	533
Presents from 6	Sovernment of Argentina	44
	Colombia	51,63
	Great Britain	37
	Japan	68
	Spain	37
to Berr	nadou, J. B	68
	orn, Thomas O	44
	lip, John W	
	ckney, Thomas	37
	giers, Americans	5, 6, 8
Proclamation p	rohibiting importations, authorizing	532
_	merican commerce	32, 539
		-,
	R.	
70 11 7 1 13		= 40
	ska	140
	erican captives in Algiers	
	, decoration from Government of Russia	47
	pmmerce 511, 53	
	bargo	511
Reports by Mr.	Anderson	12
	Bibb	8
	Bingham	6
	Brown 55,	
	Buchanan	33
	Burnside 10	,
	Clay	30
	Edmunds	49
	Frye	57
	Giles	11
	Goldsborough	11
	Langdon	5, 6
	Lapham	43
	Macon	12
	Mason	81
	Miller	
	Payne	,
	Sedgwick	37
	Sherman 51, 57, 68, 75, 76,	,
	Smith	6
	Strong	11
•	Sumner	95
	Tazewell	29
	Wilson	42
D (' '	Windom	37
	trade of United States by foreign tariffs	52, 539
,	m G. (See Nominations.)	
	an. (See Nominations.)	AP
	ion from Government of	47 12
	r to	45
8ervices	to survivors of Jeannette of Chizens of	20

S.

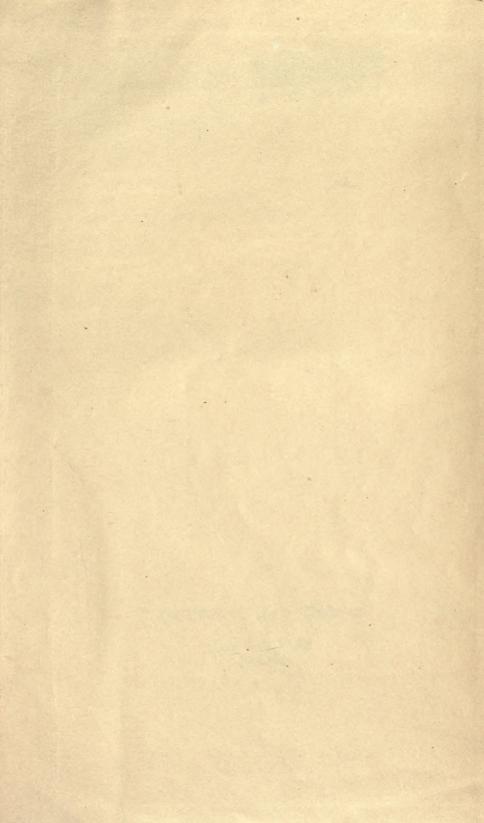
	age
San Domingo, suspension of intercourse with	
Seamen of United States, for encouragement of	526
Secretary of State. (See Nominations.)	
Sergeant, John. (See Nominations.)	
Shield from Government of Argentina to Thomas O. Osborn	44
Ship canal across Isthmus of Darien. (See Nicaragua Canal.)	
Short, William. (See Nominations.)	
Spoliations on commerce 5,	514
Statue of Liberty Enlightening the World	57
to Simon Bolivar	43
Steamship Alert, return to Great Britain of	44
Jeannette, services to survivors of crew of	45
Stevenson, Andrew. (See Nominations.)	
Stream, Albert T., medal from Government of Great Britain	42
Sweden, minister to. (See Nominations.)	44
Swine products of United States, restrictions on importation of	539
Swine products of Officed States, restrictions on importation of	559
Т.	
Tariff restrictions of foreign nations	539
Tehuantepec, canal across Isthmus of	81
Trade in Mediterranean.	5, 6
Traffic with natives of New Hebrides	533
Treaty with Morocco, to enforce	5
U.	
· ·	
United States, boundary of, northeastern	503
southwestern	33
commerce of	5,
6, 8, 507, 508, 511, 512, 513, 514, 518, 523, 524, 525, 526, 528, 532,	539
crimes against neutrality of	532
V.	
Vases presented to J. B. Bernadou by Government of Japan	68
Venezuela, statue of Simon Bolivar from Government of	43
Vessels of France, embargo on	
Great Britain, embargo on	,
San Domingo, embargo on	
United States, for protection of	
Vignaud, Henry, decoration from Government of France for	43
W.	
War, trade in munitions of	532
Washington, erection of statue of Bolivar at	43
Waters between Canada and United States, diversion of	503

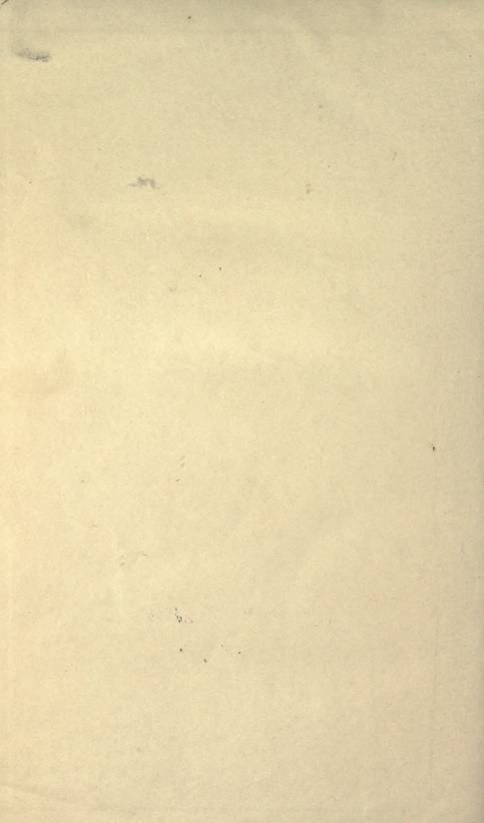














UNIVERSITY of CALIFORNIA
AT
LOS ANGELES
LIBRARY